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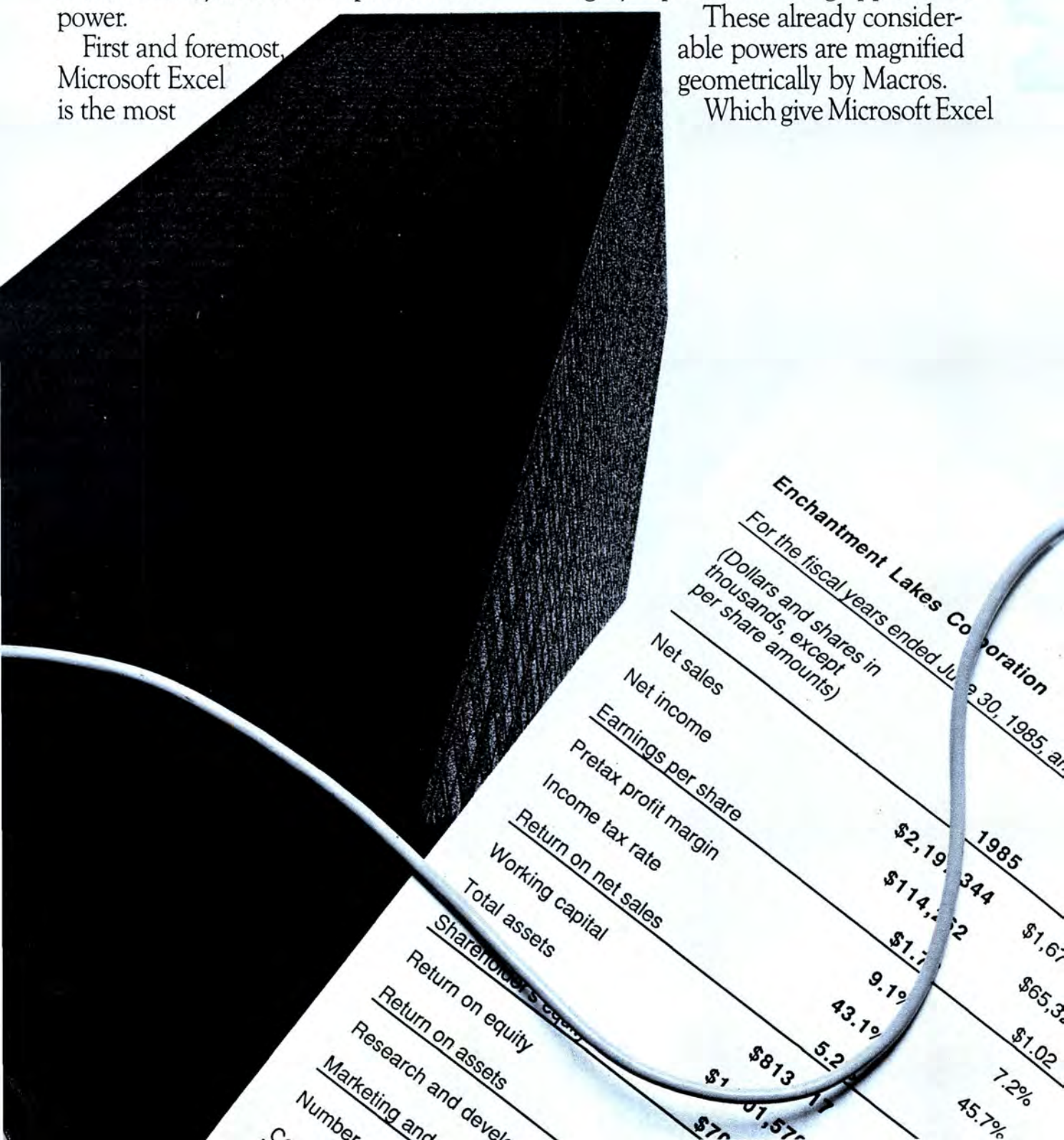
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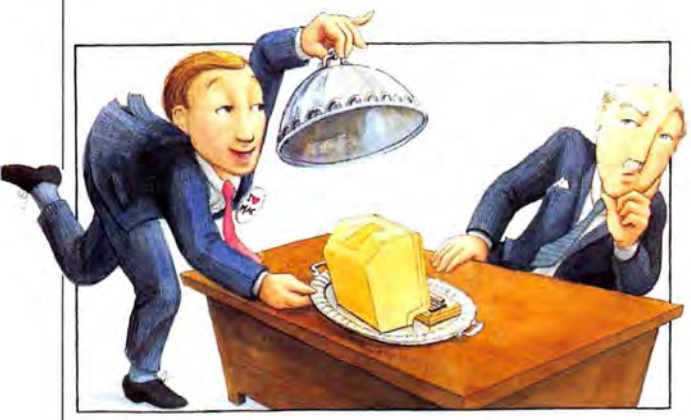
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Ted Benhari is Public Information Officer at Dominican Hospital in Santa Cruz, CA. He is very much into Desktop Publishing. He produces numerous publications for the hospital, including "The Dominigram," a magazine for the general public, "The Scanner," a newsletter for employees, and a catalog promoting various classes at the hospital's Education Center. Ted likes having the ability to digitize three-dimensional objects. **He can go from live action to his newsletter in seconds.** MacVision™ saves him time and money and gives him tremendous creative flexibility in his publishing efforts. If you need to image three-dimensional objects (buildings, displays, people, products, etc. as well as flat art) you will need MacVision.™ It's that simple. And **each MacVision™ package contains valuable coupons** for special discounts on color and black-and-white cameras so you can go from live action to print in seconds. **Save $366 on a Panasonic Camcorder and $85 on a black and white camera.** MacVision™ is available at leading computer dealers everywhere.

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The Scanner

DOMINICAN HOSPITAL EMPLOYEE NEWSLETTER

VOLUME 1, NUMBER 7 AUGUST, 1986

Alphonse Castaneda...Blooming Genius

The gorgeous orchid corsages at the Hospital's Employee Service Award Dinner came not from some South American jungle, but from the carefully tended plants grown locally by **Alphonse Castaneda**, the instrument technician in the Surgery Department.

Alphonse has been growing orchids for seven years. Bloomed from a hobby into a part-time vocation, his orchids are in great demand by local flower marts for retailing to the public.

Orchids' delicate beauty belies their durability. They make great gifts - a cut stem laden with flowers, called a spray, can last for one to two months, Alphonse says.

He grows his plants by cloning them in petri dishes, or combines varieties through hybridization. The work is exacting, as is his delicate adjustments of the sophisticated surgical equipment.

"My job here is to make sure everything used in an operation is working properly," says Alphonse. "It requires great care and the ability to troubleshoot during a procedure if something isn't working as well as it should.

Alphonse's expertise goes beyond mere maintenance. He redesigned a surgical saw used for cutting bone blocks for vertebra fusions. "The improvement makes the procedure go a lot faster," Alphonse says with justifiable pride.

Alphonse was a prime mover in organizing the Hospital volleyball teams, although his schedule doesn't permit him to play this year. "The teams boost morale by helping people from different departments get to know each other as people," he says, "not just as functions."

This is very important to Alphonse, who as anyone who knows him will affirm, is a real "people person," with a well-deserved reputation for kindness and generosity.

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by Neil L. Shapiro

MUSINGS ON A FLAT MAC

I miss my mouse!

The life of the traveling telecommunicator isn't all that others have cracked it up to be. I'm trapped on vacation in Lake George, New York, hunched over an LCD screen on a laptop computer in a dimly lit motel room. The last time this place saw a mouse was probably only a few days ago, but it wasn't likely any rodent that I could have loved.

How did this come to pass? Obviously there are few people around who love the Macintosh with the same fervor that I do who, this evening, are trying to remember the *WordStar* commands they learned in a misspent youth. I mean, and this is serious, I've even had to relearn how the *PIP* program works.

We live in dire times.

I guess my main reason for having done this to myself is simply that the Macintosh is portable in the same way that a color TV set, a carry around air conditioner or a Kaypro is portable — it has a handle on top. But my own Mac, and I expect those of many other Mac enthusiasts, is attached firmly to my desk via a maze of cables leading off to MIDI interfaces, printers, digitizers, hard disk(s), and I don't even remember what all else. But I do know the last time I decided to go Mac-portable it took me over an hour to unhook the Mac, make sure all the denuded cables were safe, and then stuff everything into that canvas bag.

Then I had to take the canvas bag and lug it to the car, had to try to fit it among two kids, a wife and a ton of suitcases. And not being the kind of guy who pumps iron in international contests, there's always the dreaded 7-mile walk from the motel parking lot to the motel room.

So, I admit it — I wimped out. I took the easy way.

I turned my back on the Macintosh interface just this once. And I got exactly what I deserve.

WordStar.

But I'm being mean to *WordStar,* and I don't intend to be. MicroPro has a good program there for what it is, a word processor that operates without a Mac attached. I used *WordStar* for years and years (before the Mac) on my Apple II under CP/M.

So I figured a CP/M laptop with *WordStar* would solve my problem. I knew that I would miss my Macintosh, but I didn't think that withdrawal would be this terrible.

You should only see the way my hand keeps slapping around on the desktop trying to find the mouse that isn't there. I've seen better looking fish flopping on the beach.

But I won't take all of the blame for my present, untenable predicament. Sure, I deserted the Mac interface. But, darn it all, the Mac interface also deserted me.

So, keeping in mind that I am willing to shoulder up to 75% of the blame, I allocate the other 25% to Apple Computer, and here's why.



KAREN STOLPER

WHERE'S THE FLAT ONE?

It's no secret that Apple has been planning a number of new Macintoshes to tempt the Mac owners of the land on to many different upgrade paths. (Well, it is a secret, just a poorly kept one.) Slotted Macs, Macs with big screens, Macs with color and Macs that seem to have everything but the kitchen sink on their desktops all have been rumored to have been seen in prototype many times.

Once in a while, though, you do hear about a laptop portable Mac. But that one never seems to be rumored at anywhere near the same completeness as the other Macs. That's not very surprising when you consider that all of the other kinds of Macs simply play off on the features and engineering of present Macs. But a laptop Mac (often called a Flat Mac) would certainly have to feature a number of new steps forward.

Even the most basic design principle would have to change — you would not want a mouse on a laptop machine. A trackball, perhaps, or some sort of thumb-operated wheel might do it. An LCD screen is slow and hard to see (take my word for it) and so we might have to go to something like a plasma or electroluminescent display.

And, from Apple's point of view, this must seem like one large R&D bet to satisfy what must be called a problematical audience. Apple has had no experience in the laptop market. And, according to some industry reports I have seen (mostly based on reaction to the IBM PC portable), the laptop marketplace is seen as a trifle on the soft side.

My advice to Apple (one stockholder's opinion) is to go for it.

The Macintosh interface has created a totally new and separate market for laptops, much different from the market that the other laptop computers now serve. We are dealing now with a market involving people who simply could not possibly be served by the competition.

Show me a Mac owner with a laptop computer and I'll show you a person dying to give Apple more money — for a Flat Mac. [*Editor's note: Not exactly dying, but I'd beat down anyone ahead of me on line.*]

And, as the Mac market becomes more and more a market driven by things other than the traditional uses for personal computers, the aspect of true portability will become ever more important. Such things as animated graphics, interactive expert systems and actually readable desktop publishing templates — these all travel well.

We need a Flat Mac (I happen to need one in the next 10 minutes, unfortunately). When will it happen? Soon, I hope.

I wouldn't want to see Apple miss an opportunity that seems to be so great.

FROM DESKTOP TO DESKTOP

There's one other thing that I think Apple should be doing — and that is working not only to make the Mac the very best personal computer, but to make it a standard for the entire industry to follow. That means making certain information and routines readily available and/or licensable to competitors.

Many people reading this have only used the Macintosh. These people will find it hard to understand exactly why I am going on about how indispensable the Mac interface really can become. After all, until you have experienced the lack of a thing the value of that thing may not be completely apparent.

I have no doubt that people generally would prefer to use a Mac over any other computer — if they had access to one.

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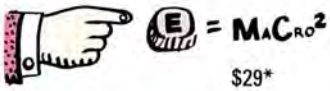
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The problem is getting people introduced to the Mac interface. It is a sort of circular route at this point — buy a Mac and then learn that you never should have lived without one. This is the modern day Catch-22 of personal computing.

What we (all of us in computing) need to do is see that the Mac interface is absolutely established as the worldwide method of computing on a microcomputer. Nothing less than that is acceptable.

We can do so much, but Apple has to do the rest.

Apple has taken the first and most important step in that it has designed, manufactured and has now established a huge user base for the Macintosh — the world's absolute best personal computer.

Now it is time to take the next step. That step is to begin offering the Macintosh ROM routines as licensable routines to other manufacturers — or at least a representative subset of those routines.

Apple has software evangelists, user group evangelists, and now they need *desktop evangelists.*

The job of the desktop evangelist would be to see that the Macintosh style of desktop operating systems becomes the norm for personal computing. These people would have the responsibility of turning the Macintosh into the absolute standard for personal computing. I think Apple could pull it off, without giving away the farm.

There's no doubt that the machine featuring the most in the way of innovations, the true Cadillac of such a standard would always be the Macintosh. Apple would wind up with many new followers, but it would always be the leader.

Apple's market share of the desktop environment might be less in a simple percentage, but it would become a much, much larger marketplace. If all computers were Maclike in operation then it stands to reason that Apple would become the most successful computer company.

And, I would never have to miss my mouse again.

(Quick parenthetical note: For those looking for a nice vacation spot for the family, the Lake George, New York area is great for all but families composed of gourmets. It is an absolutely beautiful lake surrounded by amusement parks, scenic areas, and about four thousand "family" Italian restaurants. The definitive sign on such a restaurant appears to be: "YES!! We Have PIZZA!!" Forewarned is forearmed....)

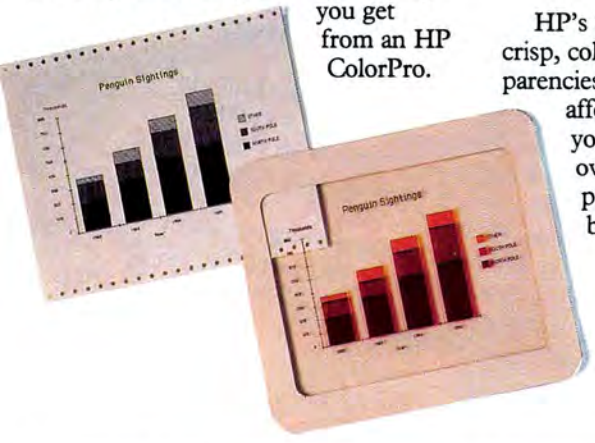


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- Gives you a full-screen editor and mini-word processor that lets you jot down notes, create and edit files, and/or be used in conjunction with programs like MacWrite™ or MacPaint.™
- Provides you with a telecommunications program that sends and receives data from any on-line network or bulletin board *while using* other applications. (You need a modem for this feature.)
- Lets you tap into a full-featured financial and scientific calculator that will let you print out a paper tape of your work.
- Offers you a print spooler that prints any text file while you run other programs.
- Shows you an instant calendar—by day, week, or month—which you can also print out.
- Reminds you of important dates/times/appointments with a "things-to-do" file.
- Alerts you to engagements with a convenient alarm system.
- Tells you what you're spending in telephone charges by calculating the cost of every call to whatever area code or time zone.
- Keeps you aware of business and travel expenses.
- Gives you a credit card file that tracks entries, balances, and limits.
- Arms you with a report generator that prints out your mailing lists, calendar, or phone directory.
- Tells you the time with a sweep-hand analog clock.
- Gives you instant on-line "Help" with one mouse click.



Heart of America's skipper Buddy Melges with *Borland International's* skipper Philippe Kahn on a testing, training, and analytical run, Santa Cruz, California.

Mac News for Kangaroos!

Heart of America, one of the U.S. 12-meter contestants in the America's Cup races in Australia, is relying on Reflex for the Mac to help *Bring That Cup Up.* (They're also using Borland's SideKick® and Turbo Pascal.®) Reflex analyzes 20 different variables like *wind speed, heel angle, backstay load, trim tab angle, rudder angle* and 15 other criteria to show and tell *Heart of America* where to be when—and what to do now to win!



NEW

Turbo Pascal for the Mac coming November 15!

The incredibly fast (more than 12,000 lines a minute) Turbo Pascal for the Mac™ is about to be released. It will be priced at only $99.95, and includes a complete development environment with a built-in editor and the ability to run programs *and* generate *double-clickable* programs *while you run* the lightning-fast compiler! (You can also do separate compilations using UNITs.)

We've also made the compiler fit into 48K. Small, powerful and fast is beautiful.

Borland's Turbo Pascal for the Mac is compatible with Lisa® and Macintosh™ Programmers' Workshop Pascal.

Turbo Pascal for the Mac is even better than the current Turbo Pascal version we have for the IBM®PC, but don't tell anyone. November 15 is soon. Get Turbo Pascal for the Mac—don't settle for anything less!

Introducing Reflex for the Mac, Borland's remarkable new relational database

Because it is a truly relational database, Reflex for the Mac™ lets you get your various acts together. Lets you connect "A" to "B" to "C," or "Dog" to "Cat" to "Fight." Or whatever links and connections you need to make and need to see. It's a simple spreadsheet-style series of electronic and visual cross-references. There's a clear connection (which you first make by drawing it on-screen) between "Client"—"Matter"—"Attorney"—"Time Sheet"—"Expenses" and "Bill." Or between "Slow Driver in Left-Hand Lane"—"Mile-long Traffic Jam" and "Shot from Behind." It's all relational.

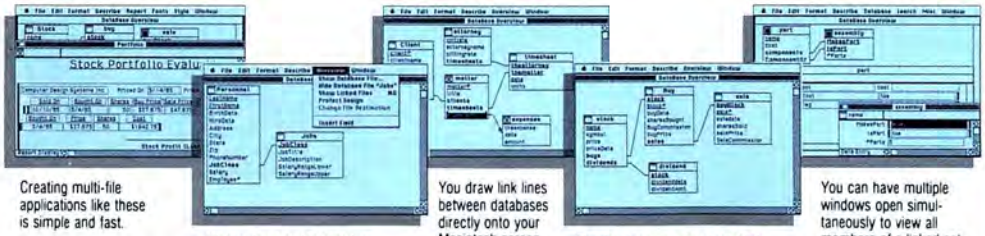
Designed to make the most of your Mac's visual talents, Reflex for the Mac lets you place fields and pictures wherever you want them on the page—and print them that way with your Report Generator.

A funny way to use Reflex for the Mac

Let's say you have to make a lot of speeches and you like to tell jokes, but can't always remember the right one for the right audience at the right time. So you use Reflex for the Mac to set up multiple files that all connect to each other.

Your "Joke" file connects to your "Audience" file, which is split into categories like "Friendly," "Hostile," "Dumb," "Student" or whatever—all of which are interconnected and relational. Reflex for the Mac lets you find the right joke for the right audience, right now.

(The serious sides of business include applications like client billing, stock portfolio management, tax planning, and your checkbook.)



Creating multi-file applications like these is simple and fast.

Highly visual and interactive database files are all created in the "Overview" window

You draw link lines between databases directly onto your Macintosh screen

The link lines you draw establish interactive and visual relationships between your databases

You can have multiple windows open simultaneously to view all members of a linked set



Five free templates when you buy Reflex for the Mac.

"You get—absolutely free—5 ready-to-use templates for

- 1040 tax form preparation
- Stock portfolio analysis
- Client billing
- A parts 'explosion' application that breaks down objects into components for cost analysis
- Personal checkbook template.

Total cost to you? $Zip!"

Philippe Kahn,
President, Borland International

You need Reflex for the Mac

Get some Reflex action out of your Mac. Call now. With Reflex for the Mac, you'll have all the right connections.

"Really uses the visual strength of the Mac to produce a database design tool

Adam Greene, InfoWorld

. . . a stunningly wonderful application generator/dbms

Esther Dyson, Release 1.0

Bridges the gap between the pretty programs and the power programs

Stewart Alsop, PC Letter"

YES! I want the best!

Send me Reflex for the Mac or SideKick for the Mac at:

$99.95

To order by phone or for a dealer nearest you,
call (800) 255-8008
in CA call (800) 742-1133

__ Reflex for the Mac	$99.95*	$ ____
__ SideKick for the Mac (with PhoneLink)	99.95	$ ____
Outside USA add $10 per copy CA and MA res. add sales tax		$ ____
Amount enclosed		$ ____

Prices include shipping to all US cities

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State: _____ Zip: _____
Telephone: _____

CODs and purchase orders WILL NOT be accepted by Borland. Outside USA make payment by bank draft, payable in US dollars drawn on a US bank.

All prices are suggested list prices and are subject to change without notice.

**Introductory price—expires 12/31/86.*

***YES, if within 60 days of purchase you find that this product does not perform in accordance with our claims, call our customer service department and we will gladly arrange a refund.*

Minimum system requirements: *Reflex for the Mac: 512K. SideKick for the Mac: 128K.*



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Borland products include Turbo Prolog, Turbo Pascal, Turbo Tutor, Turbo Editor Toolbox, Turbo Database Toolbox, Turbo Graphix Toolbox, Turbo GameWorks, Turbo Lightning, Lightning Word Wizard, Reflex, The Analyst, Reflex for the Mac, Reflex Workshop, SideKick, SideKick, The Macintosh Office Manager, Traveling SideKick, and SuperKey—all of which are trademarks or registered trademarks of Borland International, Inc. or Borland/Analytica, Inc.

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Trying to stay alive makes these programs killers.

Examine	Open	Close	Speak
Operate	Go	Hit	Consume

Go where computer adventures have never gone before. But you've got to be careful.

Deja Vu: A Nightmare Comes True™ and Mindscape's new *Uninvited*™ put you in the kind of tight spots that make droplets of sweat . appear on your mouse.

MacUser Magazine and the Software Publishers Association both named *Deja Vu: A Nightmare Comes True* the best entertainment software program for 1985. And they had good reason.



Point and shoot. Just click OPERATE, your weapon, and your target.

With close to a megabyte of involving graphics to manipulate with the ease of a mouse, you're free to do your detective work. Not that your problems are simple. You've awakened in a drug induced stupor with the police and a gruesome gang of hoods on your tail. To make your plight worse, you don't remember who you are.

So you've got to be on your toes. Grab your mouse. Aim your .38. And deter a threat without wasting time.

Examine	Open	Close	Speak
Operate	Go	Hit	Consume

Examine the newest Mindscape thriller. It's not a sequel. But it is sensational.

Uninvited lets you take a terrifying journey of fear through the eerie confines of a dark, mysterious mansion. *Uninvited* really goes bump in the night with full digitized sound.

Animation puts the locals, a collection of demons and specters, in an exciting new light as they step out of the shadows. It won't take long for you to discover that they prefer not to have house guests.

You've got quite a mystery to solve. And your hide to save. So don't wait for a formal invitation.

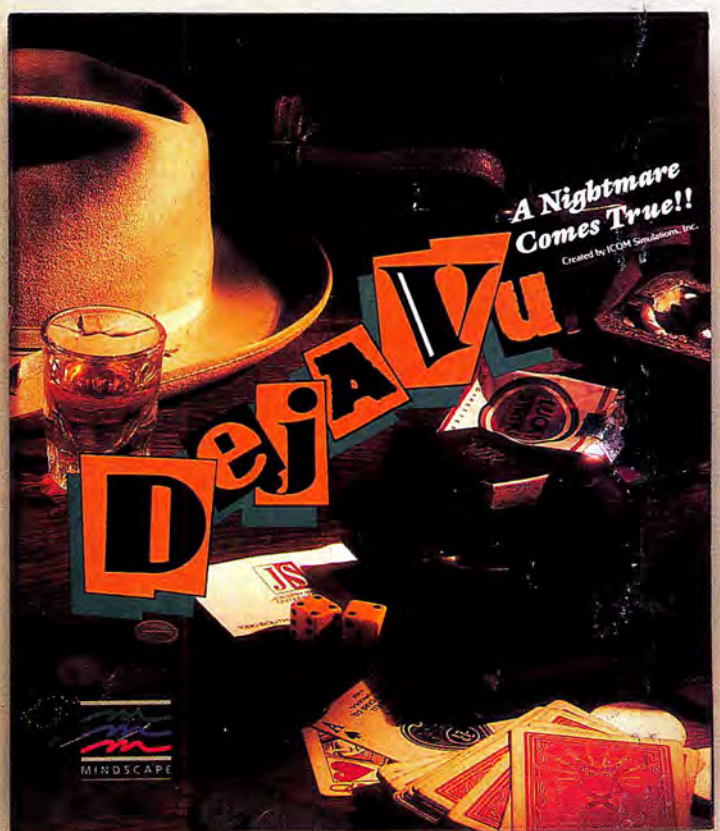
Examine	Open	Close	Speak
Operate	Go	Hit	Consume

Consume the kind of excitement you would do almost anything to avoid in the real world. Experience what *MacUser* called "...a complete breakthrough in gaming."

Deja Vu: A Nightmare Comes True and *Uninvited* are available now to maximize your Macintosh™ for spell-binding action. Enjoy them both.

And discover how much fun murder and mystery can be.

Mindscape
Software that challenges the mind.



Uninvited.



Developed by ICOM Simulations, Inc.

MINDSCAPE

Visit your retailer or call 1-800-443-7982 (in Illinois 1-800-554-3767) for VISA or MasterCard orders. To purchase by mail, send VISA or MasterCard number with expiration date, check or money order to Mindscape, P.O. Box 1167, Northbrook, IL 60065. Add $3.00 for shipping and handling. Allow 3-5 weeks for delivery. *Uninvited* and *Deja Vu: A Nightmare Comes True* are each $49.95.

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HISTORY REWRITES ITSELF?

Thanks, John Dvorak, for recording for posterity the sale of the century ("They Sold Their Souls to the Fortune 1000," July '86). It seems everyone is tripping over each other to record computer history as Apple says it happened, rather than recording the events. Here's one such "sale":

I have a back issue of a magazine whose cover shows a circus peanut, superimposed with an Intel 8088 chip, next to a Macintosh apple, superimposed with a Motorola 68000. The Macintosh and the PCjr were head-to-head competitors from their introduction, but most magazines are touting Apple's line that the Mac was targeting businesses from the beginning.

IBM presented the PCjr as a crippled version of its successful but low-tech business machine to penetrate the home market. The Mac was to be Apple's underachieving, home market intro to its high-tech but failing business machine, the Lisa. IBM's crippled "success" flopped, and Apple's crippled "failure" grew wings and flew. The success has been attributed as much to a user-friendly operating system as to a buyer-frenzied ad campaign, led off by the popular "bash Big Blue" TV commercial that many felt was decidedly business-unfriendly. The Macintosh has been evolving into a business machine with each successive upgrade, although it's still not up to its defunct parent, the Lisa, in some respects. Nonetheless, it has invented desktop publishing and is now a worthwhile business machine. Just don't say it was always so. It was, and is, the best low-end machine around...of any color.

ANTHONY VAZQUEZ
BROOKLYN, NY

IN THE EYE OF THE BEHOLDER

When I subscribed to *MacUser*, I didn't expect my first copy (July) to be a T & A extravaganza complete with grotesque caricatures of zaftig women gracing the articles on integrated and telecommunications software. Your otherwise fine magazine does not need to contribute to the already overcrowded field of artificial stupidity.

MIRIAM SOLON-HANOVER
CHICAGO, IL

I am an avid professional user of the Macintosh. I recently purchased the July issue of *MacUser* and found it both informative and useful. I was greatly offended, however, by the caricatures of women illustrating the contents page and several of the articles.

Surely you must realize that a large number of your potential subscribers could be women. Are you trying to tell us you do not want our readership? As a professional, I am disturbed at the image you have presented of women in this issue.

Your otherwise fine magazine is a valuable tool to the Macintosh user. I look forward to the possibility of purchasing other issues if I see a change in your illustration policy. I will be watching hopefully.

LAURA MASOTTI HUMPHREY
HONEOYE FALLS, NY

I was bothered by the sexism of some of the art work in July's *MacUser*. The drawings for "Good Things Come in Slim Packages" and "Three-Ring Circuits" would have been more appropriate for *Playboy* or *Penthouse* than for *MacUser*.



I am particularly disappointed seeing this in *MacUser*. In past issues I have noticed that *MacUser* appears to have an editorial policy of using non-sexist language. I was also sad to find out that (Art Director Lisa Orsini) is a woman.

ANDREW SHALIT
CAMBRIDGE, MA

Those illustrations offended neither MacUser*'s art department — all of whom are female — nor the editorial department, which is about half female. Your responses reminded us of a recent flap over an ad in* Ms. *magazine, in which Gloria Steinem was attacked for allowing a "demeaning" advertisement in its pages. (She said that she found the ad erotic, not pornographic.) Sometimes sexism is all in the eyes of the beholder. In this case, we found the illustrations humorous. Does the (pardon the pun) butt of all visual jokes have to be male? And why did* nobody *see fit to comment on the sexist portrayal of the male body in the "Beyond Bare Basic" article in the same issue? Oh well, we'll watch our illustrations more closely in the future, folks.* — TFH

COPYRIGHTED CLIPPER

Your mention of the Dynamic Graphics art service, *Clipper*, in July's "Fliers on the Fly," was appreciated! However, the contents of the *Clipper* are *not* "public domain graphics." All graphics and material published by Dynamic Graphics are exclusive and fully protected by registered copyrights owned by the company.

Those who purchase the graphics are granted a limited license to use the material for their own communication project, but are prohibited from resyndication, resale, redistribution or transmission of any graphic as a stock design, film or digitized image.

RANDALL KINCAID
MANAGER, PUBLIC INFORMATION
DYNAMIC GRAPHICS, INC.

PLUS WHAT?

In your MiniFinders section, when a program requires "512K+" what does that mean? Does it denote the need for a standard 512 plus an external drive? If so, does the double-sided drive in the 512 Enhanced and the Mac Plus satisfy the requirement? Please help me understand.

Whatever the hardware requirement,

JIM LUDTKE

Chock Full O'Mac!

Our capsule reviews section, *MiniFinders*, is indexed by category, and has become the standard reference for *MacUser* readers needing to pick and choose software and peripherals.

More software evaluations in every issue than in our two major competitors *combined*.

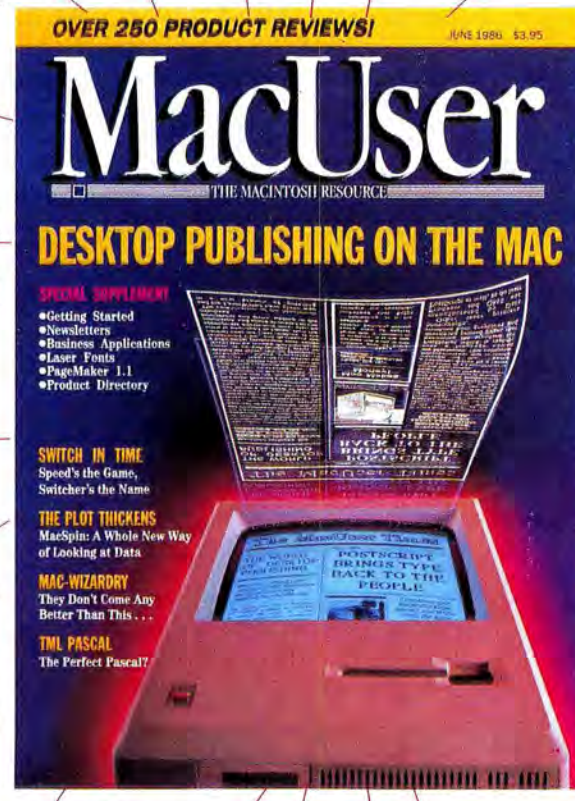
The only Anti-Editor in the business, John C. Dvorak, doesn't pull any punches in his regular column, *The Devil's Advocate*. Love him or hate him, Dvorak is irresistible reading.

Doug Clapp, Macintosh Renaissance man, explores the weird and the wonderful, what's hot and what's not in *The Mac Boundary* every month. He's awfully funny, too!

Advice straight from the horses mouth: Apple Computer's Dan Cochran (supported by his technical colleagues in Cupertino) answers your questions every month in *The Help Folder*.

"I think that *MacUser* is the best publication for the Macintosh in the country." Paul Coughlin, Vice President, Innovative Technologies

Need to keep up to date on Mac software? Check out our *Quick Clicks* department each issue, which features half page, illustrated reviews of new releases.



More software evaluations in every issue than in our two major competitors combined.

"*MacUser* is far and away the best magazine out for the Macintosh." Nick Karp, Head of Software Development, West End Games

Editorial principle #1: *MacUser* is a tool to help you get more out of your Mac system. No lifestyle articles. No arty white spaces. Less padding and puff and more hands-on stuff. Issue after issue after issue . . .

"The most informative Macintosh magazine on the market. More usable information in one issue than in a year of MacWorld." Don Ross, Senior VP Group Creative Director, Wunderman, Ricotta & Kline

Editorial principle #2: Our advertisers are important to us. But readers are *more* important. Editorial integrity and the right for our editors and contributors to call the shots as they see them is, was, and always will be *MacUser's* cardinal principle.

"Our customers in the Apple and Macintosh community consistently tell us that *MacUser* is the best magazine." Philippe Kahn, President, Borland International, Inc.

MacUser's editorial team, contributing editors, columnists and feature writers are the best in the business. The proof is in the magazine itself and in the testimonials you'll find elsewhere in this ad.

"The best commercial Mac magazine." Reese Jones, President, Berkeley Macintosh Users Group

MacUser's editorial content is structured so that approximately 20% is aimed directly at the novice, 60% at intermediate users and 20% at advanced, power users

"It's about time the Macintosh community had a magazine that understands what the users want. *MacUser is* that magazine." Marc Canter, President, MacroMind, Inc.

A higher percentage of readers of *MacUser* own a Macintosh than any other Mac magazine

"*MacUser* is my favorite desk accessory. It has more stuff, less fluff . . ." Robert Woodhead, Vice President, Sir-Tech Software, Inc.

Subscribe to the world's best Mac magazine . . .

Use the coupon opposite and save $25.00 off the newsstand price!

it could be depicted under the mice, saving text space. Some possibilities are: 128 (Skinny Mac), 512 (Standard Mac), 512E (Enhanced Mac), Plus (Mac Plus), 512D (Standard Mac with an external drive), 512ED (Enhanced Mac with an external drive), etc.

Of course, the Mac itself demonstrates the effectiveness of clever icons.

GARY C. VAN HANDEL
HIGHLAND, CA

We read your letter and like your idea, which is presently under consideration. Until we do make further changes, though, all that the term 512+ means (in current MiniFinder jargon) is that you need at least 512K to run the program. When an external drive is required, we say so. And, until manufacturers have had a reasonable amount of time to update their old MFS systems to the HFS format, we won't specify Mac Plus compatability. Give 'em time, folks. Just about all your favorite programs are being upgraded to HFS.

"DEATHS" ON THE RECORD

I encourage you to keep up the "obituary" notices you started in the July 1986 issue. The passing of such companies as Assimilation, Miles Computing and MicroDesign are worthy of comment, if only to tell your readers about what customer support remains.

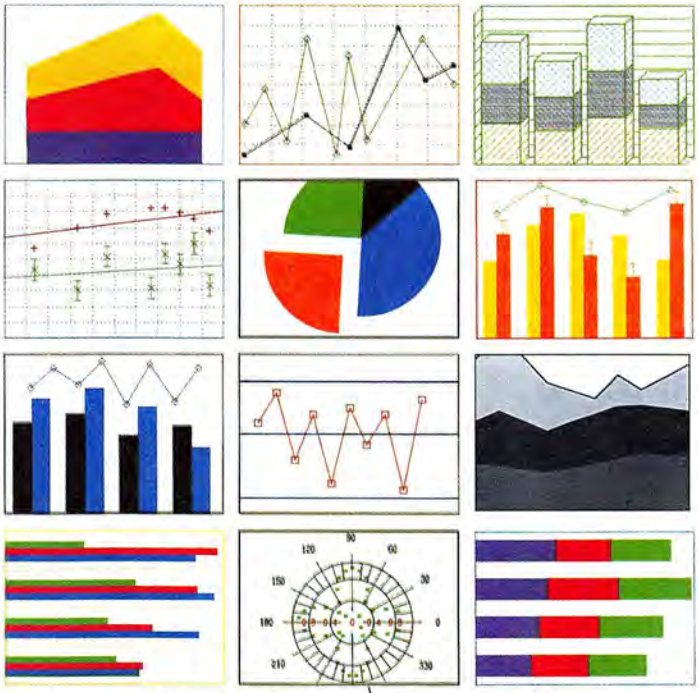
I also notice that in your MiniFinders section you no longer use mice, but rather use bullets instead. Presumably this was an economic decision. And it looks like all "bombs" have been dropped. I hope this is because of periodic updating and not advertiser pressure.

MICHAEL TOLLEFSON
HANAHAN, SC

The change from mice to bullets in the MiniFinder section was made for time savings, not cash savings — how would you like to be the one to painstakingly readjust the position of each and every mouse? And, as soon as the typesetters finish creating our custom, digitized "mouse" font, they'll be back.

As for the disappearance of "bomb" ratings from the MiniFinders, you're quite right — we update the section frequently, dropping dead and marginal products off the list. The fact that you see less bombs is more a matter of space on our pages (and, generally, better overall quality of new products) than any other reason. By the way, did you notice that as we update the section, older programs often lose a mouse (or bullet) of rating to newer, more powerful programs? — TFH

If your Mac can't graph like this, it's not quite Cricket.



Cricket Graph

• Get the **12** most popular business/scientific charts and graphs in **one package** • Plot **2000** data points per series. (95% more than any other Mac graphic package) • Full color and **3-D** capability • Position up to **10 graphs** on a single page • Page layout for **desktop publishing** merges graphics with text

Only one software package arms business and science with the tremendous graphic power of the Macintosh™. Cricket Graph. The first Mac package to deliver all the impact of color presentation charts and graphs. And all the possibilities of desktop publishing.

Transform data into graphics that speak louder than words. Then, print your creations out in crisp black and white or brilliant color on any of the most popular Mac-compatible printers, plotters and film recorders.

Cricket Graph. Nothing else even comes close. Just $195. Special versions available for film recorders and other high end output devices.

Requires 512K Macintosh with two disk drives, or Mac Plus with one internal drive.

Macintosh is a trademark of Apple Computer Inc.

Charts printed on LaserWriter™, Hewlett Packard Color Pro™, and ImageWriter II™

cricket software

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NEW ON THE MENU

CAUGHT ON A MAC

This beautiful butterfly was created on a Tektronix 4105 Color Workstation. The file was then transmitted to a Mac, where it was captured by *VersaTerm-PRO*, running in its 4105 emulation mode. As you can see, none of the graphic quality was lost when the file was printed on an ImageWriter II equipped with a color ribbon.

VersaTerm-PRO lists for $295. For more information contact Peripherals, Computers and Supplies at 2457 Perkiomen Ave., Mt. Penn, PA 19066, 215-779-0522. — *SB*



THE ROUND MAGAZINE

One day soon, reading your second favorite magazine might mean turning on your Mac. *Uptime* is a new monthly disk magazine. It contains news, hints and tips, reviews and game and utility programs. It comes on a 400K disk so all Macs can read it.

The first issue has several good games (Yahtzee and Mac-Sevens), two desk accessories (Calendar and We Are the Word), a font, a labeling program, a program to rescue damaged *MacWrite* files, and lots of other material.

The layout is a little unusual in that you never see a normal desktop. However, everything works well, and the contents are high quality. A 12-month subscription costs $66, and individual issues are $15.95 each. Contact Viking Technologies, PO Box 299, Newport, RI 02840, 800-437-0033 for more information. — *SB*

EXCHANGING EXCEL-LENT INFORMATION

Spend a lot of time with *Excel*? You're not the only one. But you might be able to cut the time down a little by using one of the macros you can find through the Excellent Exchange Catalog. Excellent Exchange is a distribution service dedicated to *Excel* templates.

Excellent Exchange welcomes template submissions from *Excel* users. Prices for each template range from a low of about $2 to a high of just under $40, with most in the $6 to $10 range. Template authors whose works are distributed receive a royalty payment for their efforts.

For a catalog and a sample disk that contains approximately 15 programs and demos, send $4.00. The catalog itself is free. For more information, contact Heizer Software, 5120 Coral Court, Concord, CA 94521 or call (415) 827-9013. — *TFH*

HOT FEET FOR COOL MICE



BOB ZIMMERMAN

Teflon is a material that you would expect to find on a good frying pan. Your mouse can now also enjoy this smooth, seemingly frictionless surface with a strange new product, MouseEase.

MouseEase consists of four small Teflon pads with foam-backed tape that stick to the bottom of the mouse, eliminating much of the friction between the mouse and the surface it's rolling on. They're especially handy if the pins that support the front of the mouse are worn down, a common calamity among elderly rodents. At $2.95, they're even reasonably priced.

For more information contact Tacklind Design, Inc., 250 Cowper St., Palo Alto, CA 94301. (415) 322-2257. — *DB*

BBS BARGAIN

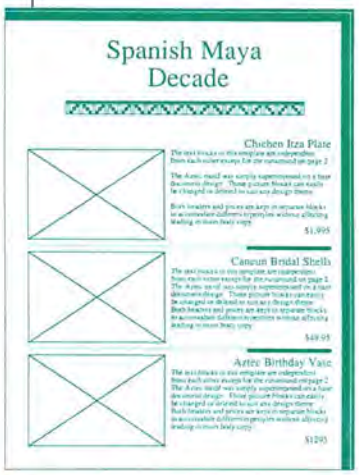
You know that you're telecommunicating a bit too much when you mistake your monthly phone bill for the rent notice. Besides large networks (CompuServe, Delphi, GEnie, etc.), BBSs are the most popular place to run up the bill. But imagine if you could call your favorite BBS systems across the country, with unlimited connect time, for $25 a month. Thanks to GTE and its new PC Pursuit service, you can do just that.

There are some limitations, though. Currently, you can call *from* most of the U.S. (anywhere the Telenet network can be reached), to 14 specific cities, including those "that have some of the hottest Mac-oriented BBS systems (San Fransisco, Boston, Seattle, etc). Calls are restricted to data (no voice). There is also a $25 enrollment fee. For long distance BBSers, PC Pursuit is something to pursue. For more information, call the PC Pursuit BBS at 800-835-3001. —*DB*

MAKE YOUR LAYOUT EASIER

Manhattan Graphics, publishers of *ReadySetGo,* have released a two-disk set containing over 30 professionally designed templates. The forms include newsletter shells, ads, brochures, memos, letterheads — and even a resume.

The templates come almost ready to print — just add text. If necessary, the preformatted features can also be modified and your own graphics added. This very high-quality and useful $69.95 set is the first of a series. For more information contact Manhattan Graphics at 401 Columbus Ave., Valhalla, NY, (914) 769-2800. — *SB*



SHIP GIVES PASSENGERS THE ROYAL TREATMENT

Passengers on the luxury liner *QE2* have been able to take a little of the morning newspaper with them — courtesy of the International Herald Tribune, *PageMaker* and the Macintosh.

The news briefs are culled from the International Herald Tribune in Paris and put together in London using a Mac Plus running *PageMaker*.

Martha Wooding, who assembles each issue, says,"The priorities for creating an on-board newspaper for the *QE2*'s passengers were quality and speed, and the Macintosh was the obvious answer. Also, although I'm no computer wiz, I was able to master the basics of *PageMaker* in half an hour."

The first step in the process is assembling stories on an IBM PC. *MacLink* is then used to transfer the files to the Mac, where they are formatted using *PageMaker*. The files are then transferred back to the IBM PC as an ASCII text and compressed to save as much money as possible on satellite transmission time. Once received aboard the *QE2*, two pages of shipboard news are added and the newspaper is printed out on a LaserWriter. Finally, 1200 copies are printed and bound in the ship's print room, and the finished product is distributed to passengers in time for breakfast.

No news may be good news, but sometimes, some news can be better than none. — *TFH*


GARY HOVLAND

BUG OF THE MONTH

This month's $25 winner is Stan Adell from Olathe, Kansas. Stan found an interesting bug in Apple's *LaserWriter* 3.1 driver.

In the *Finder*, the Print Catalog command under the File menu prints out a formatted listing of all the files on the disk, complete with their icons. When using this feature in *System* 3.2, Stan discovered that the top row of icons from the desktop window didn't print — just the file names were on the catalog, with white space where the icons shoud have been. We easily duplicated the bug, and wondered how it was that no one at Apple ever noticed it! We could find no way to get Print Catalog to work correctly with the LaserWriter.

Get your bug reports in and you may be the next lucky winner. Send your reports to Bugsy, c/o *MacUser*, 25 W. 39 St., NYC, NY 10018. Remember to include all the details, such as what *Finder* you were using, which fonts and desk accessories were in the *System*, and exactly how you stumbled on your bug.

RUMOR MANAGER

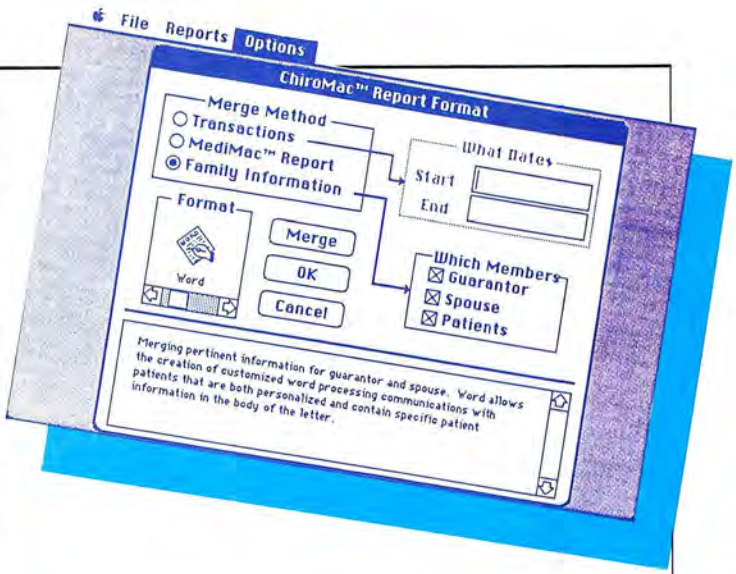
Several developments on the screen front are just around the corner. By early in 1987 you'll be able to choose from several RGB color monitors, larger B&W screens, higher-res B&W screens (really high-res, better than 1024 x 1024), and special desktop publishing screens that can show a whole tabloid spread. All will be pricey though. . . .The race to get the next power word processor out is really heating up. There are some truly astounding products on their way to market. . . . *Servant* and *Erato* should both be readily available by now, at least in beta versions. Reports have Apple still kicking the *Recognition* project around, but it's hopelessly behind. . . . The wave of buyouts and company failures that afflicted the game software companies recently will spread to some of the big productivity companies. Look for a lot of familiar products to show up with new names *and* new publishers. There's a super spreadsheet coming from a southeastern US company. It will also have a great built-in telecommunications module (enough of a hint?) An 8-meg Mac will be shown at one of the upcoming shows — a prototype has already been demoed at Apple An entirely new (for the Mac) mode of vector graphics will soon be available, but only for the WorkStation machines. . . . Some of the results produced on the Apple Cray have been so startling that they weren't believed until repeated runs showed they were correct — this means that the generation after the next Mac can and probably will be skipped What started out as a joke has resulted in a working prototype. The Wrist Mac often referred to actually exists, although the mouse problem is still there. It just goes to show how far some engineers will go for a hack . . . There have been some reports of counterfeit copies of major programs showing up on the West Coast. The manuals are the giveaway. Their binding is shoddy. Apple production people and engineers have recently been talking to Intel. We won't even guess what that might mean. . . . With the release of *MORE, ACTA* and a really neat product from Florida, outlining is going to become a major software category on its own. . . . The Mac should surpass the IBM in Christmas sales this year Lotus is taking another crack at improving *Jazz*. First glimpses indicate that it might be a winner this time. . . . Accounting programs are starting to come of age, and *Insight* seems to be leading the pack. . . . A very large school district is about to switch over from Apple IIs to Macs. This might trigger a wave of similar conversions. Apple's quantity pricing will encourage that. . . And to end this month, a hard fact, not a rumor: We were wrong about the new case color. It will not be a harsh, institutional gray, but a warm, elegant gray. Call it "platinum," if you will. Apple does.

THE CHIRO-MAC-TOR

Chiropractors who'd like to automate their record keeping, billing and marketing systems need look no further than their Macs, thanks to *ChiroMac*, a new product from HealthCare Communications. The package joins the company's MacHealth series that includes titles such as *MediMac, DentalMac* and *OpticMac*.

ChiroMac requires a 512K Mac or Mac Plus, a hard disk and a printer. It can store and retrieve patient data and produce walkout statements and insurance forms, can generate reports including billing, production, insurance and management information and tracks which insurance claims have not been settled.

The program can be used in conjunction with a number of other programs, including *Excel, Word, File, OverVUE* and *Jazz*. The package currently lists at a rather high $3,500. For more information, contact HealthCare Communications, 245 South 84th Street, Suite 301, Lincoln, NE 68510, (402) 489-0391. — *TFH*



MAPMAKER, MAPMAKER, MAKE ME A MAP

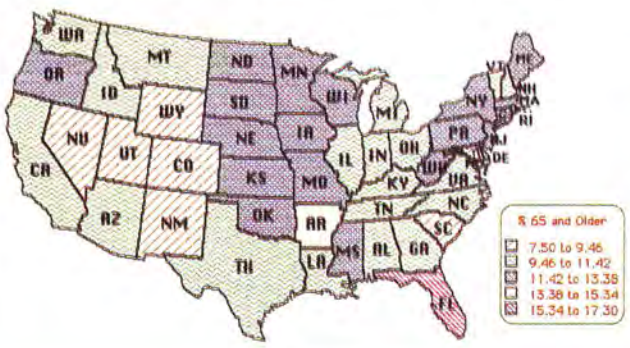
The Mac has seen lots of clip art maps produced, but none offered superb quality and versatility. A new program called, appropriately enough, *MapMaker,* promises to provide all the maps professionals need, and at a reasonable cost.

The program isn't simply a collection of bit-mapped images, but a map creator. It uses boundary definitions to draw maps to the size you require. These definitions are simple text files and have been created for other computers (such as the IBM PC). The same files work here, so there is an enormous range of material already available. The program will come with boundary definitions of the United States by state and county and of the world by country. More detailed data will also be available.

Each region of a map can be assigned data (imported from text files), a unique pattern and a color! Yes, a color. Right now, you'll have to use an ImageWriter II with a colored ribbon to see the colors, but the colors will still be there if a color Mac is ever released. Since the color information is built into the file, maps pasted into a *MacWrite* document and printed on an ImageWriter II print in color.

The program has many features that let users manipulate and enhance their maps. Sections can be selected and linked to other sections, so you could, for example, create a map of sales territories.

Working with maps involves huge amounts of calculation and screen drawing. You might expect it to be slow. Well, *MapMaker*'s speed is going to surprise you. *MapMaker* lists for $295. For more infomation, contact Select Micro Systems at 2717 Crescent Dr., Yorktown Heights, NY 10598, 914-245-4670. — *SB*



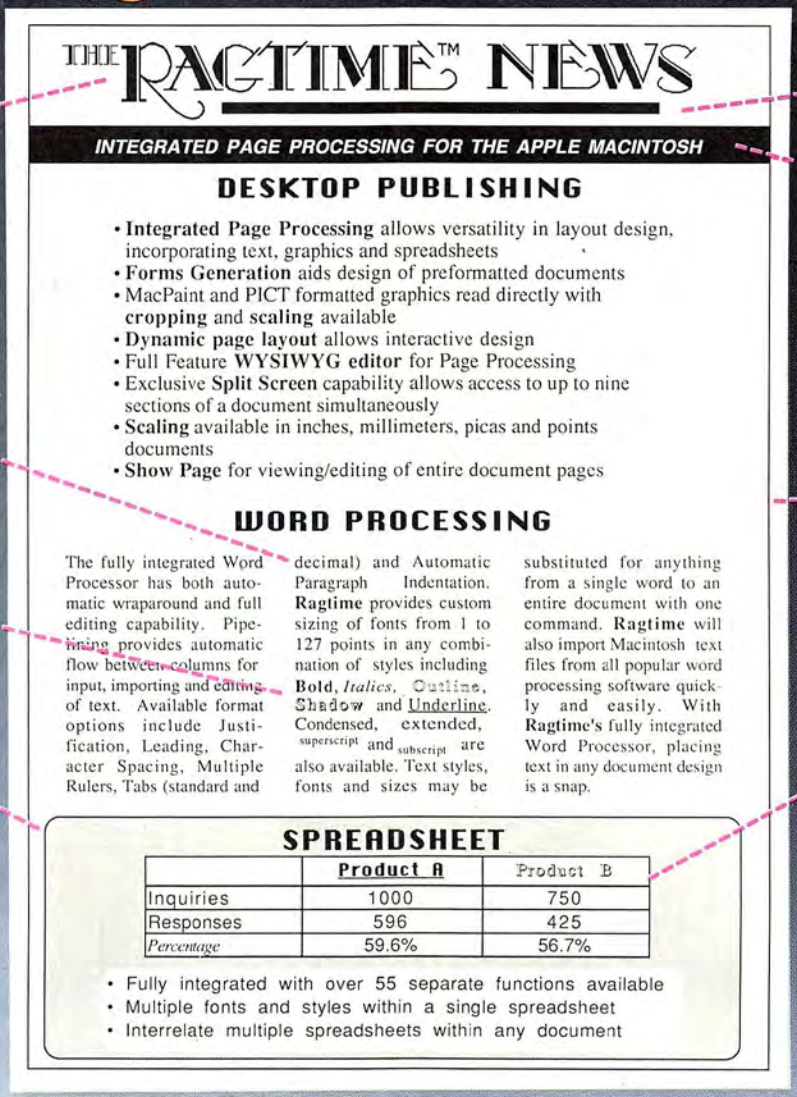
UPDATES

Do you have the latest versions of your programs? Most programs indicate what version they are when you look in the About . . . choice at the top of the Apple menu. If your version isn't the latest, contact the publisher about possible upgrades. Look for addresses in our MiniFinder section. Here's our list (as of press time). — *SB*

Aztec C	1.06h
BatteryPak	1.23
Click/On Worksheet	1.3
ColorChart	1.3
ColorPrint	2.01
ConcertWare+	3.0
Copy II Hard Disk	5.4
Copy II Mac	5.4
Cricket Graph	1.0B
Crunch	2.0
DiskInfo	1.43
Dollars & $ense	1.4
Edit	2.0d1
Excel	1.00
ExperLISP	1.5
ExperLogo	1.1
Factfinder	1.1
Fedit Plus	1.0.5
FONTastic	2.7
Fontographer	1.5
Hard Disk Utility	1.21
Helix	2.0 r7
InTouch	2.1
Jazz	1A
Just Text	1.0i
MacDraw	1.9
MacBackup	4.0
MacBase	1.0
Mac Disk Catalog II	2.1b
MacDraft	1.3
MacGolf	2.0
MacLabeler	2.2
MacLightning	2.0
MacPaint	1.5
MacServe	2.1
MacSpell+	1.1
MacTerminal	2.0
Mac Tools	5.4
MacWrite	4.5
Mac Zap Copier	4.1
Mac Zap Tools	3.5
Mac Zap Patcher	3.1
MeasureTest	7.1
Megamax C	1.42
Microphone	1.0
Micro Planner	1.1
MORE	1.0
MS BASIC	2.1
MS Chart	1.00
MS File	1.02
MS Fortran	2.1
MS Word	1.05
MS Works	1.0
Multiplan	1.1
MusicWorks	1.1
myDiskLabeler	2.11
Omnis 3	3.10.MAC
Omnis 3+	3.21
OverVUE	2.0d
PageMaker	1.2
PictureBase	1.1
Quartet	1.1
QUED	1.4
Quickset	2.0
Rags to Riches	2.6
ReadySetGo	2.1
Red Ryder	9.4
Resource Editor (Resedit)	1.0d12
Resource Editor (Redit)	1.2
Sidekick	1.1
Slide Show Magician	1.3
Smartcom II	2.2B
Spellswell	1.2d
StatWorks	1.2
Switcher	5.0
Tempo	1.1
ThinkTank 512	1.3
ThunderScan	3.2
TML Pascal	1.2
Top Desk	1.4
TurboCharger	2.0
VersaTerm	2.00
Word Handler	1.1

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Integrated Page Processing



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- Exclusive **Split Screen** capability allows access to up to nine sections of a document simultaneously
- **Scaling** available in inches, millimeters, picas and points documents
- **Show Page** for viewing/editing of entire document pages

WORD PROCESSING

The fully integrated Word Processor has both automatic wraparound and full editing capability. Pipelining provides automatic flow between columns for input, importing and editing of text. Available format options include Justification, Leading, Character Spacing, Multiple Rulers, Tabs (standard and decimal) and Automatic Paragraph Indentation. **Ragtime** provides custom sizing of fonts from 1 to 127 points in any combination of styles including **Bold**, *Italics*, Outline, Shadow and Underline. Condensed, extended, superscript and subscript are also available. Text styles, fonts and sizes may be substituted for anything from a single word to an entire document with one command. **Ragtime** will also import Macintosh text files from all popular word processing software quickly and easily. With **Ragtime's** fully integrated Word Processor, placing text in any document design is a snap.

SPREADSHEET

	Product A	Product B
Inquiries	1000	750
Responses	596	425
Percentage	59.6%	56.7%

- Fully integrated with over 55 separate functions available
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- Interrelate multiple spreadsheets within any document

Easily import and size graphics within any document

Draw lines for accent

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Generate forms for usage as often as needed

Mix type fonts, styles and sizes within any format

Create frames of various shapes, sizes and border thicknesses

Powerful spreadsheet for independent usage or use within other documents

Finally...professional results from an easy to use, fully integrated package! **Ragtime** delivers on the promise of personal computing with a complete set of powerful tools for **Desktop Publishing, Forms Generation, Word Processing,** and **Spreadsheet,** all from one package. And, we have remained faithful to the concept of the Macintosh, so that you are truly productive quickly and painlessly.

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Powerful **Word Processing** is included as a natural element of **Ragtime.** This not only eliminates the need for a separate piece of software, but means that you need not re-edit your copy as you try to make it fit into your format. And, the word processor is so complete and capable that it will quickly become your standard.

Ragtime's integrated **Spreadsheet** delivers exceptional capabilities. Now you will not only use spreadsheets for financial data, but effortlessly incorporate numeric data into reports, or written copy into spreadsheets. You will easily design spreadsheets with complete flexibility in layout. Or use **Ragtime's** spreadsheet to create standard forms, such as invoices, requisitions, or reports.

A standard **Forms Generator** allows you to design and save any form, of any length, and to change it as you require. You will see the complete form on the screen, ensuring that what you design is exactly what you need. From letterhead to complete financial reports, you can quickly create any format for professional appearance with significant time and cost savings.

Productivity, ease of use, and power. **Ragtime Integrated Page Processing** delivers, in one complete package, the next generation in software. Today. **Ragtime,** the complete solution. See your local computer dealer today for a demonstration.

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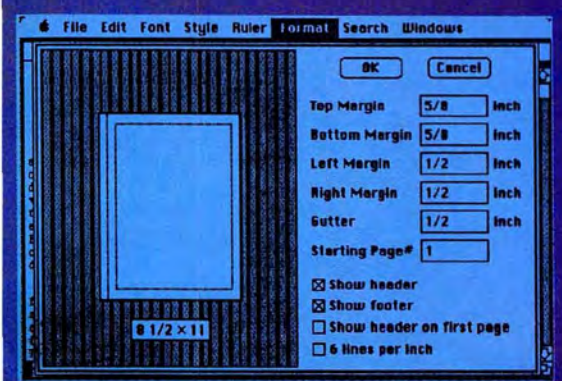
- Optimized virtual memory
- Global format changes
- Keyboard cursor control

Power

- Open multiple documents at once
- User-definable glossary
- Compatability with other programs

Unique Versatility

- Variable column formats
- Columns displayed on screen
- Retains *MacDraw*™ graphics format
- Global text reformatting
- Margin changes displayed interactively
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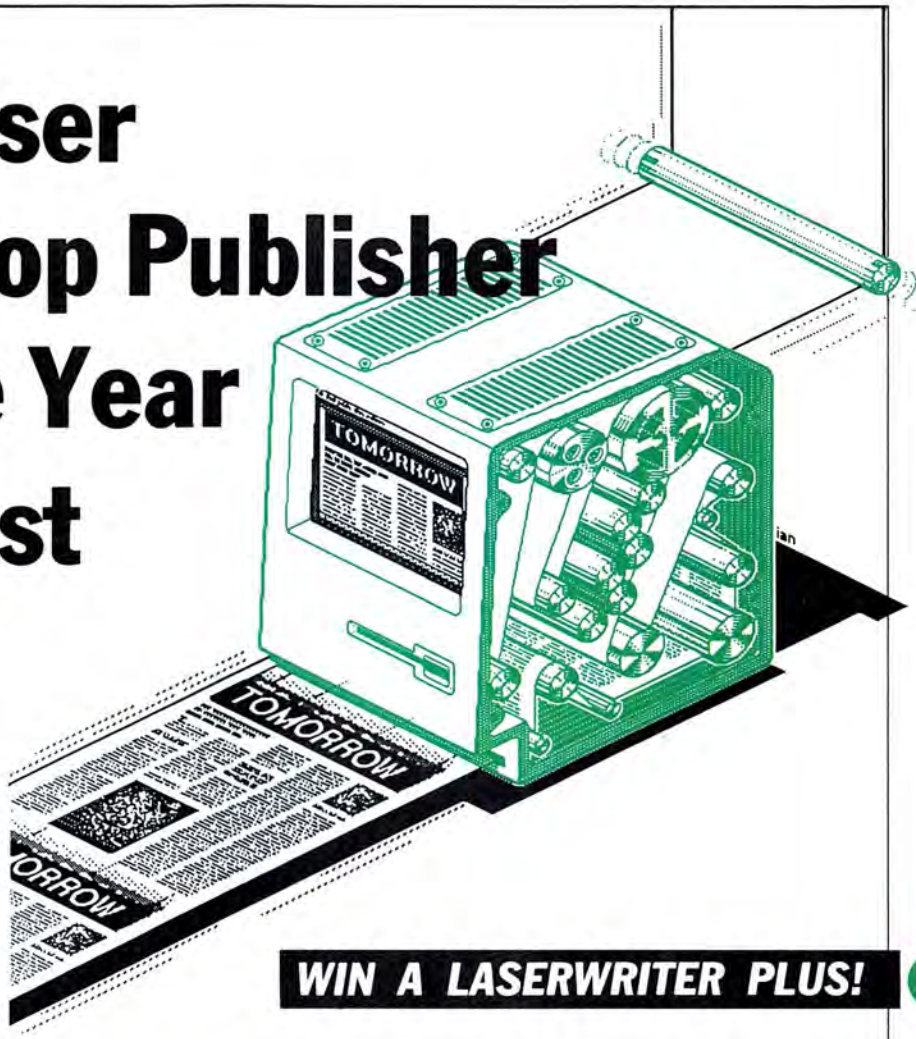
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MacUser Desktop Publisher of the Year Contest



WIN A LASERWRITER PLUS!

In the September 1986 issue of *MacUser* you will find our second desktop publishing supplement, *Professional Desktop Publishing*. Our first supplement, *Desktop Publishing on the Mac*, published in June, created substantial interest and we received hundreds of requests from corporations, educational institutions, dealers and user groups for reprints of the supplement. In addition, Apple Computer has distributed 30,000 copies of each supplement to its authorized dealers.

In response to this enthusiasm and the astonishing growth of Macintosh desktop publishing among our readers, we are announcing an exciting new annual contest to find the *MacUser Desktop Publisher of the Year*. This contest is open to the entire Macintosh community. That could mean you, whether you are a professional working for a large organization or an individual working from your home.

We want to encourage the widest possible spectrum of entries. There are four categories: (1) Newsletters. (2) Books and manuals. (3) Advertisements. (4) General. (The last category is basically a catch-all and might include superior letterheads, forms, restaurant menus, packaging design, business reports, invitations and other, more esoteric forms of desktop publishing. Surprise us!)

MacUser magazine will gather a panel of editors, graphic designers, publishers, marketing professionals and prominent Macintosh luminaries who will judge all entries on the basis of originality, technical proficiency, aesthetic appeal and effective use of the medium.

One entrant will win the overall award: *MacUser Desktop Publisher of the Year*. Four other entrants will win individual category awards. The prize for the overall winner will be an Apple LaserWriter Plus and an individually engraved plaque from *MacUser* magazine. Prizes for each individual category winner will be $500 worth of Mac software of your choice and an individually engraved plaque. A runner-up prize for each category of $100 of software of your choice will be also awarded at the discretion of the judges.

MacUser will be publishing the results of this contest in our January 1987 edition, together with excerpts of prize winning work. Please read the rules below, which govern this contest. May the best desktop publisher win!

THE FINE PRINT

1. This contest is open to all desktop publishing users, both "amateur" and "professional," except employees of *MacUser* and its affiliates. There is no entry fee.
2. All entries submitted must have been produced on a Macintosh (128K, 512K, 512K Enhanced, Plus or XL). All work, including final assembly and layout, must have been performed on a Mac, with the single exception of book and manual covers.
3. All graphic art used must be original or used with the permission of the creator. If the material was produced for an organization, include the organization's permission with entry.
4. All entries must have been created for distribution of at least 25 copies. (We don't want you to create something specifically for this contest, but rather honor work seen and used by many.)
5. *MacUser* reserves the right to reproduce all winning entries, or portions thereof.
6. Here's how to submit your entry:
 A. Send 6 hard copies of your entry.
 B. Send a disk containing the final product and all component work files.
 C. On a separate sheet submit your name, the name of the organization for which the material was produced (if any), your address and phone number.
 D. Also tell us what program or programs were used in the production. Feel free to describe any interesting or unusual techniques used.
7. Mail your entry to MACUSER DESKTOP PUBLISHER OF THE YEAR, c/o *MacUser*, 25 West 39th Street, NY, NY 10018. Put the category of your entry on the lower left corner of the envelope. All entries must be postmarked by October 1, 1986. All entries submitted at the entrant's risk. The decisions of the judges will be final, and the results will be published in the January 1987 issue of *MacUser*.

PRIZES AND AWARDS

One overall grand prize will be awarded.
Entries will be judged in categories. In each category, a first prize and a runner-up prizes will be awarded. The four categories will be:

(1) Newsletters. This category also includes magazines of all sizes and journals.

(2) Books and manuals. The cover does not have to have been produced on a Mac, but the entire interior, including art, must have been so produced. Remember that mechanically pasted-up work is not eligible.

(3) Advertisements. This category includes both traditional and nontraditional advertising, including fliers, mailing pieces and brochures.

(4) General. Everything else, including menus, invitations, and package designs.

How to make networking the Macintosh as easy as using one.



Introducing the all new Keeper™ Plus.

THE ONLY TRUE FILE SERVER BUILT FOR THE MACINTOSH™ APPLETALK™ NETWORK.

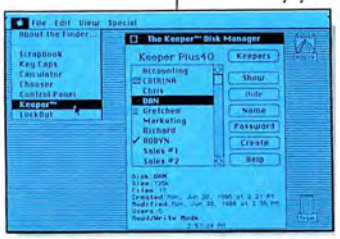
It's a simple fact. The all-new Keeper Plus is the only true file server that allows multiple Macintosh users access to the same file at the same time. Period. And it does it without dedicating an additional Macintosh. No other file server is smart enough to make that claim. And no other has the built-in intelligence, power, and easy user interface of the Keeper Plus. It makes a network full of Macs run as simply as one.

Alone. Or in a crowd.

The Keeper Plus performs just as well for a single Macintosh. It greatly expands your storage capacity—up to 80 MB. Provides flexible partitioning. But unlike other storage devices, the Keeper Plus provides you a growth path. As your business expands, you can add more Macintoshes to share the power of the Keeper Plus. There's no additional software needed.

All it takes is a connection.

If you can plug in a cable, you can set up the Keeper Plus. All it takes is a single AppleTalk cable. That's it. No additional software to learn. No complicated start-up functions to perform.



The Keeper Disk Manager makes access to all 64 disk volumes a one-screen operation.

Instantly, you'll have access to 64 disk volumes. With up to 2,000 files per disk drive. And 32 disk volumes that can be active at one time.

The Keeper Plus files expand and contract automatically. You'll never have to set parameters. Or calculate confusing disk volume sizes.

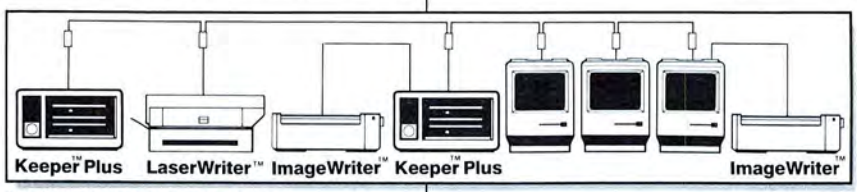
The one and only.

There is no other shared storage device that can match the Keeper Plus for versatility and power. As a print server and print spooler, you won't have to wait for a document to print before resuming work. And back-up options are available to protect your valuable files.

The new Keeper Plus is manufactured and supported by REACH Technologies Incorporated. And every new Keeper Plus has been designed by REACH to provide the reliability you need to keep your network up and running. Operating the Keeper Plus is as easy as operating the Mac.

The Keeper Plus. The easiest, most efficient way to store and share information for the Macintosh AppleTalk network. No other file server even comes close.

The Keeper Plus is available from Authorized Resellers of REACH Technologies Incorporated. Call 1-800-523-8392 (512-280-1977 in Texas) for the Reseller nearest you.

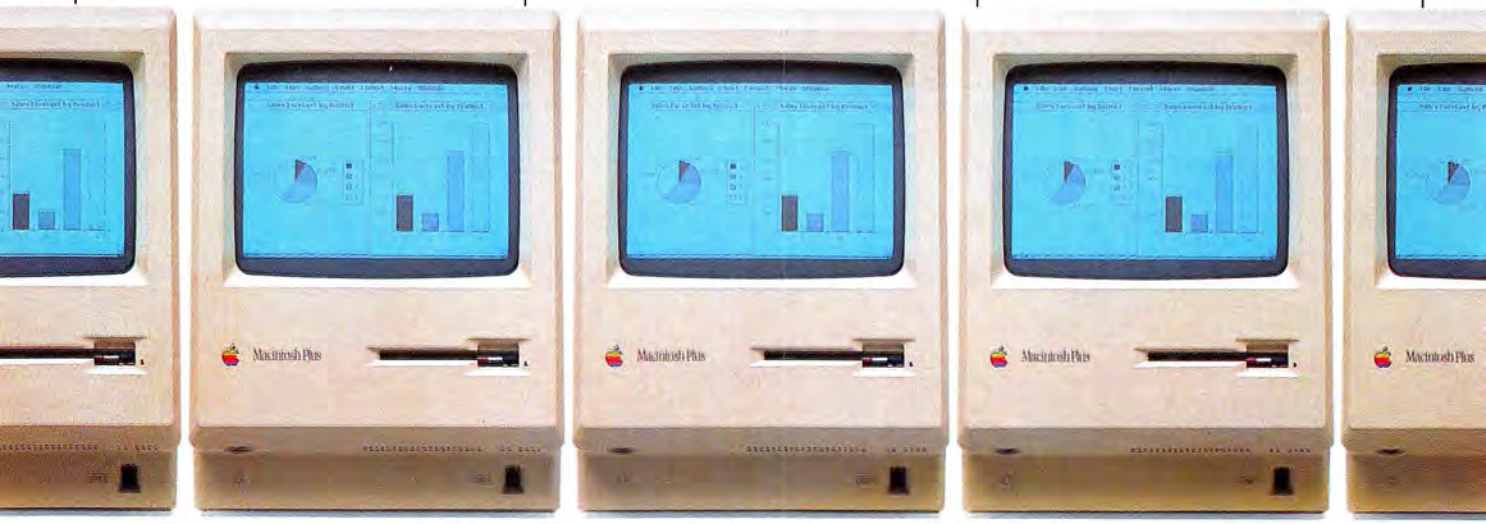


Typical network setup using two Keeper Pluses.

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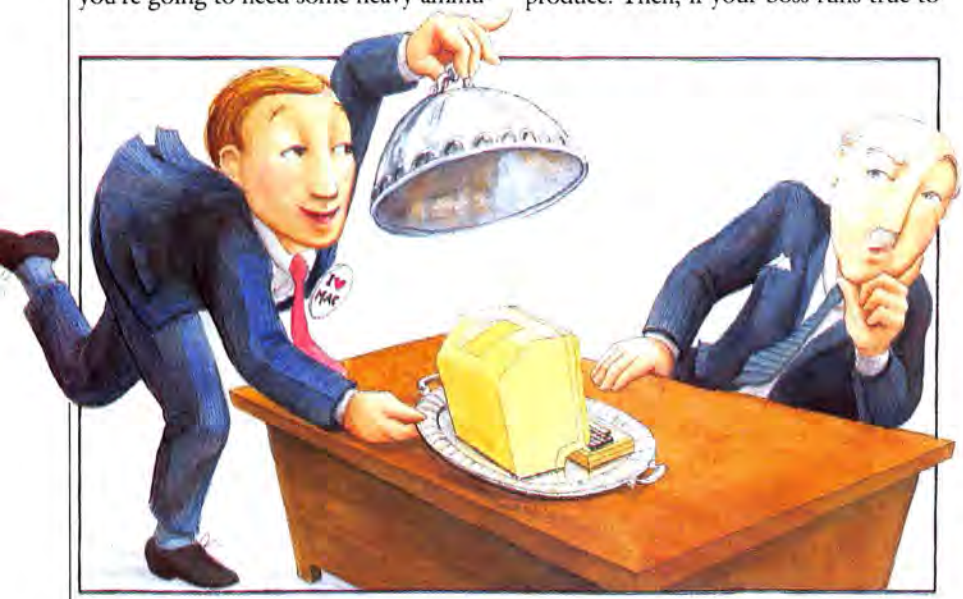


by Robert R. Wiggins

OPENING THE BACK DOOR

Your mission, should you choose to undertake it, will be fraught with peril. You will be behind enemy lines, alone, unaided, with no one to turn to for backup. You will face incredulity, ridicule, suspicion and hostility. What could be so dangerous, you ask? Trying to get your boss to buy you a Macintosh.

If yours is like most companies, IBM PCs abound, for a number of reasons (see my column in the August, 1986 *MacUser*). If you want to buck the trend, you're going to need some heavy ammunition. Fortunately, the Macintosh provides some, which is a good thing, since you won't find much help. As part of the company reorganization, Apple put marketing to companies back in the hands of its dealers. This was bad for Apple, bad for the dealers, and bad for you. The odds of a computer dealer even getting in the door of most major companies are a billion to one (although the Apple reps weren't exactly wearing down the carpets making sales calls before the big reorganization).



BRIDGET STARR TAYLOR

So you're on your own. Where do you start your guerilla campaign? The Mac has some natural selling points: ease of use, high quality output, graphics capabilities and the common interface among applications. You'll need a plan that can demonstrate the value of these to your boss. You also need to be prepared to counter the objections that will come up: not company standard, not a business computer, not enough software available and not IBM compatible.

PLAN A

Let the Mac sell itself. Got a presentation to make to your boss? Do it on the Mac. Make your graphs and charts with *Excel* or *Cricket Graph*. Make your bullet charts with *MORE* or *MacDraw*. Do your report with *MacWrite*. And if at all possible, print the output on a LaserWriter (many dealers will let you use theirs, especially if you explain you're trying to make a sale for them). Be sure to include graphics, as there are laser printers that can work with other computers for text output, so you need to have graphics that only the Mac can produce. Then, if your boss runs true to form, you'll be asked how you produced them, and the trap springs. There are a lot of Macs sitting in offices today that were sold just that way.

PLAN B

The surprise demo. Sometimes Plan A doesn't work. You don't have access to a Mac, for instance. So you go with Plan B. You invite your boss out to lunch at a restaurant that requires you to walk past an Apple dealer. Needing to stop in "just for a minute," you drag your unsuspecting boss in where your salesperson accomplice has a demo waiting. A good ploy here is to have a chart or report for work prepared in advance. Have your demonstrator print it out on the LaserWriter, showing the ease of use and the quality of the output while ostensibly doing something for work.

What about the objections? The easiest ones to handle are "not a business computer" and "not enough software." A demonstration of some of the capabilities of packages such as *Excel, Word, Micro Planner Plus, MORE* and *PageMaker* should put the lie to both objections.

"Not IBM compatible" is a bit tougher, Mr. Sculley's promises of future MS-DOS capabilities notwithstanding (although when Apple delivers on the promise it will let future folks in your position have an easier time of it). Here you have to convince your boss that it's not *program* compatibility that's important, but *data* compatibility. For example, *Excel* can open and save files using the WKS format of *Lotus 1-2-3*. *MORE* can open and save files in *Ready!* or *ThinkTank* PC format. Any text file (most word processors, regardless of which machine they're running on, can produce text-only files of any document) can be opened by *MacWrite* (any formatting will be lost, but text files are easily reformatted with a few whisks of the mouse). Even word processing "standard" *WordStar* files can be used. (The trick to converting *WordStar* files for use on the Mac is to first remove the high bit from each character and then delete the control characters. That's scarier to say than to do, and it's quick. There are several free, public-domain programs that make very short work of the process. A good choice is the readily available *UnWS* program.) And most communication programs can be used to transfer these files between a Mac and an IBM PC.

"Not a company standard" is also tough. This sometimes means writing a special justification for a nonstandard computer. Here, the graphics capabilities of the Mac should be stressed. Also, since one of the reasons for a "company standard" computer is central support, the minimal support required for a Macintosh should be emphasized (with an AppleCare policy in place, there are virtually no support requirements).

THE BOTTOM LINE

Eventually the boss has been wowed with the Mac's output (Plan A) or stunned with its ease of use (Plan B), and all objections overcome. It's time to get down to brass tacks: what's it going to cost? In *Outfitting Your Office* (*MacUser*, August 1986), a "budget" business sys-

tem including a Macintosh Plus, HD20 hard disk, 800K external disk, Apple modem, ImageWriter and some assorted software was put together for just under $7000 (list prices). Most dealers will put together a system package like that for a special price, so figure between $5000 and $6000. For comparison purposes, put together a similar configuration of your "company standard" computer. If it's IBM, figure a PC AT with two floppies, 640K of memory, high-quality dot matrix printer, monitor, 1200-baud modem, all the cards necessary for all the stuff you've configured, and comparable software. You should find the price to be in a comparable (or higher) price range. Use this to your best advantage. If your company has Volume Purchase Agreements which make the IBM solution cheaper, cleverly leave this part of your analysis out.

Now we get to the *really* hard part. Justifying the $5000 to $6000 for a LaserWriter. Even if your boss was wowed by its output, that's a lot of money for a printer. The selling points here are: (1) output quality — again with the emphasis on graphics, to differentiate it from the HP LaserJet and similar printers; and (2) shareability — not a big selling point if you're talking a single Mac (whatever did happen to those fabled AppleTalk cards for the IBM PC?). Not a strong case. But if your department does a lot of graphics work, that alone should sell it. Otherwise, you may just have to settle for an ImageWriter (considering the amount of IBM dot-matrix output floating around most offices, your ImageWriter output will still stand out).

NOT STRICTLY BUSINESS, BUT GREAT

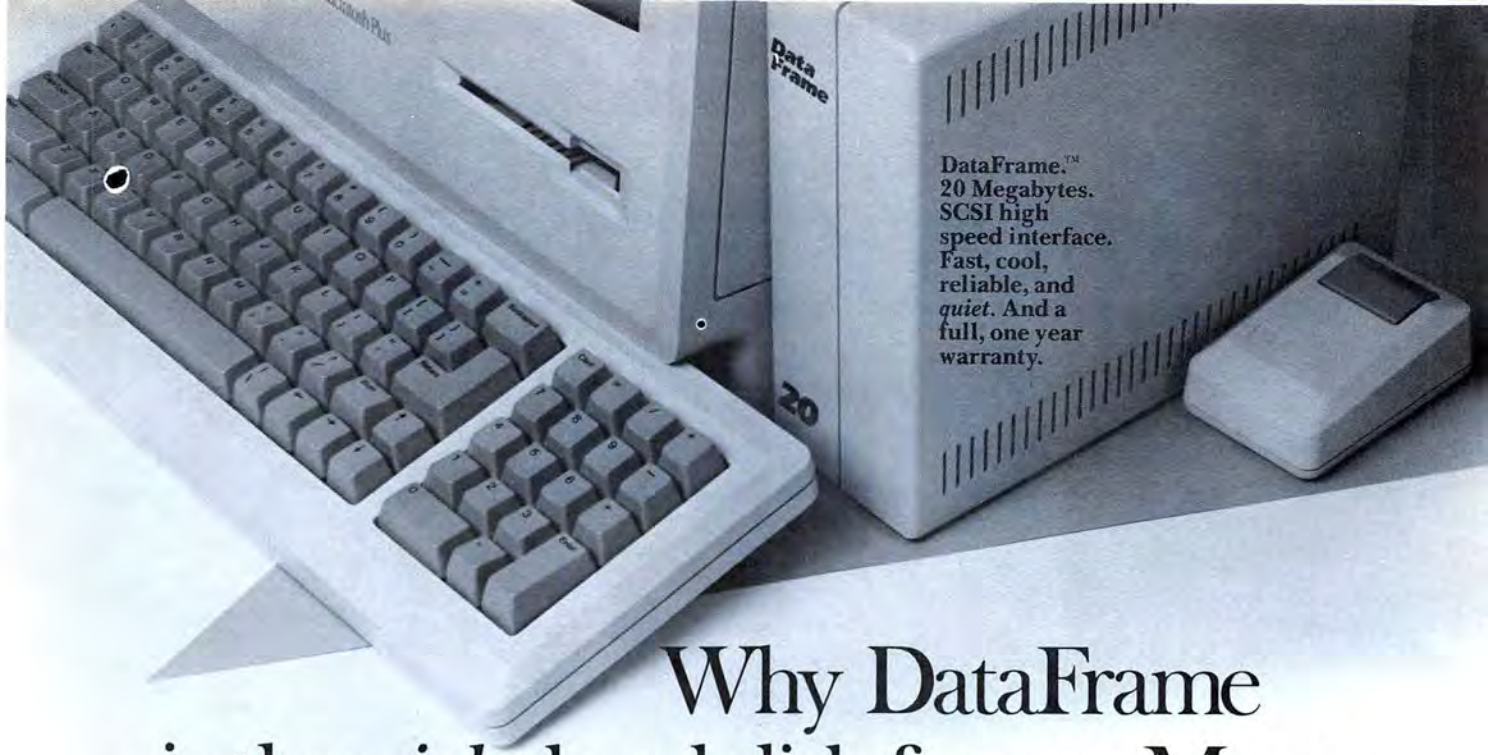
Since this is a little off my beat, I'll keep it short: *BatteryPak* 1.23 has one of the most useful desk accessories since David Dunham's *DiskInfo*, especially for people with HFS hard disks. It's called *DiskTools*, and it gives you most of the features of the *Finder* in a desk accessory. It can create new folders, move files or folders from one folder to another, copy files from one folder or disk to another, rename files and delete files, and all from within an application (or even while in the *Finder*, obviating the need to open and close all those folders). It will even let you find a file when you remember its name (or even part of its name), but don't remember what folder you put it in. Definitely a must-have for hard disk owners. Remember *BatteryPak* 1.23. From Batteries Included. Written by Evan Gross.

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SUPERMAC TECHNOLOGY

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Why DataFrame is the *right* hard disk for any Mac:

Because we looked carefully at what users need in a hard disk system for the Mac, and made the right design decisions. Decisions that give you significant benefits over any other Mac hard disk. They are:

Decision: Floppy disk port or SCSI?

Hard disks that use the serial or floppy disk port, such as the Apple hard disk, are *slow*. The SCSI interface (introduced with the Macintosh Plus) is considerably faster. The DataFrame uses the SCSI interface, and consequently runs *much* faster than hard drives that use slower ports. Yes, even faster than non-SCSI internal drives. It really makes your Mac *fly*.



◀ (If you own a Mac 512, you can get DataFrame performance too, with our $99 SCSI adapter.)

Decision: Internal drives versus external drives?

Internal drives save desktop space, but there are serious trade-offs. First, you lose your system while the drive is installed. Worse, you lose your system if the drive needs repair. (Internal drives have earned a not undeserved reputation for frequent breakdowns.)

Then there's heat—the enemy of reliability. Internal drives add heat to the system. You either use a fan—which means you listen to an annoying whine while you are working—or you use no fan, which means your system gets too hot.

DataFrame is external, so it adds no heat to the system. Because the drive is preformatted, you can take it right out of the box, plug it in, and be *working* in minutes. And if your hard disk should ever need service, you just unplug the DataFrame (you can *still* use your Mac) and get a replacement *immediately* from your dealer.

Decision: Under-system or beside-system?

A drive under your Mac has the same heat problems as a drive inside your Mac. The drive must either have a fan (*noisy*) or it sits under your Mac like a little hotplate (*unacceptable*).

DataFrame sits *beside* the Mac, uses a vertical 'chimney' design to vent heat, needs no fan, and therefore stays cool *silently*.

What else?

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The result of all these decisions:

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So before you commit to *any* hard disk for your Macintosh, you owe it to yourself to see DataFrame in action. You'll find it at any of the hundreds of qualified SuperMac™ dealers. They're listed next to this ad.

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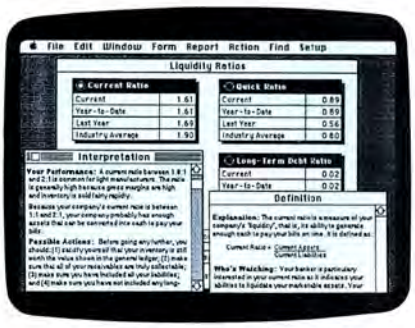
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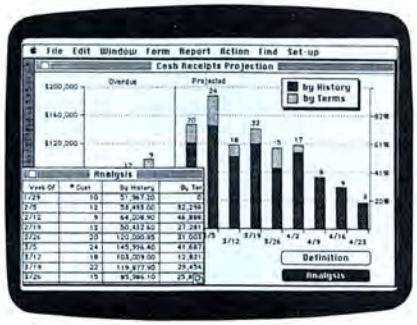


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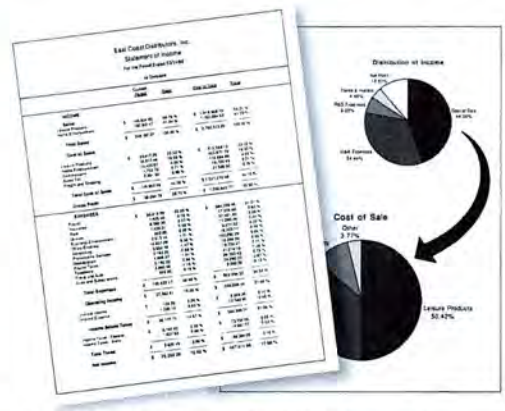
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For Free Information Please Circle 236 On Reader Service Card.



by Doug Clapp

WHAT'S THAT DISK WORTH?

Here's what it costs to make a piece of software: $10.40.

That's it: $10.40. What you can charge for that piece is up to you. $39.95? $55? $74.95? Up to you. Charge more and you'll make more, if you sell the same amount as you would with a lower price. But it doesn't work that way, usually.

The $10.40 a unit is a rough figure. Some packages cost less to produce and some cost more. But it's close to typical, I'd guess.

Here's where that $10.40 came from. It's made up of six items: disks, package, manual, labels, labor and royalties.

"Disks" includes the purchase cost of each disk and the cost of disk duplication. And the cost of copy protection for each disk. As with every aspect of buying quantities of anything, the more you buy, the less you're charged per unit. In this case, let's say we're buying about ... 5000 disks. We'll pay about $1 to $1.25 for each "duped" disk.

Copy protection? That's another 25 cents a disk — a big percentage! (If you don't want copy protection, but still want peace of mind, you can have each disk stamped with a unique serial number — for a small price. That way you'll know who's passing out free copies of your software. Uh, if they sent in the warranty card you'll know, that is. If you ever even find out about it, that is. And remember: Only 20 percent of software buyers return their warranty cards.)

How many disks in the package? Two? Okay, let's say $2.20 for disks.

Next. The package. Two types of packages are popular: cardboard boxes and vinyl, snap-together boxes. The vinyl boxes often have preformed insets to hold the disks. If you have a heavy-duty screwdriver, it's no problem removing the disks from the case.

Vinyl boxes are interesting. Actually, they're "pressboard" that's covered with vinyl in a sort of a "heat press." Ring binders are made the same way.

Let's use a vinyl snap-together box. Not too big, not too small. Maybe 6 by 9 inches — about the size of a book. That way it'll fit most any retailer's shelf; always a consideration. Bigger boxes cost more, as you'd guess.

The vinyl can be almost any color. If you want a second or third color silk-screened on top, it costs more (you're catching on to this real fast, I bet).

A bargain basement vinyl package is, maybe, a buck. Three dollars gets you something you won't be ashamed to have on a shelf. So let's say $3 a package.

We're up to $5.20 for two disks and a package. Next is the manual.

The manual has two costs: the cost of getting it written, and the cost of getting it printed. It might cost nothing to have the manual written. Often, software authors write the manual for free, especially when the programmer is the manual author is the company.

After free, the sky's the limit. Danny Goodman, a successful book author, would probably ask for, and get, quite a few thousand dollars to write a manual.



A struggling writer might whip up a short manual for $500 (about what *MacUser* pays for a mere article by an established author, but don't tell anybody).

Or, you could pay the writer nothing up front and give them a royalty for each unit sold. Maybe...50 cents a copy. If 5000 units are sold, they'd get $2500. A respectable amount, but most writers want the money now, thanks.

Let's do this: the writer gets $800 up front and 30 cents for each unit sold. We'll divide the $800 by 5000 units to get an adjusted 16 cents each, and add in the 30 cents for a total of 46 cents a unit for the writer.

Now for printing the manual. It won't be big or fancy. Modest. Nobody reads manuals anyway. And it won't have a tricky spiral ring binding — that costs too much. If it's very slim, it'll be saddle-stitched, like small magazines: fold the pages and put a staple in the middle. If the page count warrants it, the manual will be perfect-bound, like this magazine: a flat, glued spine. (*Playboy* magazine just went perfect-bound a few months ago, I think. I was busy reading *CoEvolution Quarterly;* also perfect-bound.)

How much to print each manual? $1 to $2. Less than $2 if you have a LaserWriter and can deliver "camera-ready copy." Or if you have an ImageWriter and can swallow hard enough.

For writing and printing the manual, let's make it $1.50, and veer on the low side.

We're up to $6.70. Whoops! Forgot labels for the disks. Easy to forget. But they're cheap; for 50 cents, you can get a great, two-color label. Let's put down 20 cents. It's enough. And there's "labor," which pays somebody to assemble everything: labels on the disk, manuals and disks into the box.

Fifty cents a unit, let's say. I know it's high, but who wants to run a sweat shop?

$7.40 so far.

Only one cost left, and it's a killer: royalties.

For books, it goes like this: authors usually get from 10 to 15 percent of the "net" that the publisher receives. If a book costs $20, publishers may net about $10. The author gets a buck. If he or she is a name author, or if the book has already sold a zillion copies, it may be $1.50.

Most books never sell 10,000 copies. Most authors don't drive Porsches.

Many software publishers pay programmers the same way, and net about the same percentage. But software usually costs more than books, so programmers, in theory, make more a unit. At a retail price of $55, software publishers may net $25 to $30. The programmer may get $2.50 to $3.

If, that is, the publisher pays the programmer what's rightfully owed. Very strange and magical accounting and bankruptcy are all too common among software publishers. But that's another column.

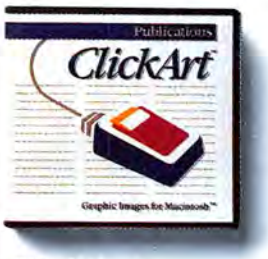
Royalties: $3. Promise. Paid monthly, not quarterly, like "real" publishers do it (also known as "using your money for as long as we can"). (Off the subject: when I'm asked how I'd like to be paid, I say: "Daily. I want a limo to pull up outside. I want the driver to bring the money to the door, in cash. And tell me I'm wonderful.")

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SKYFOX ⸸⸸⸸

List Price: $39.95. Published by Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. (415) 571-7171. Copy protected.

Arcade game fanatics, listen up: have you been waiting for a full screen, full speed, bang-em-up, blow-'em-up destruction game? Well, strap yourself into the seat of a mean, lean jet fighter, and prepare to do battle. It's time to be a *Skyfox*.

The game's premise is simple. Enemy forces are attacking with planes and tanks in an effort to destroy your base. The enemy also has enormous floating fortresses which launch their planes. You'll have to be pretty brave to attack a fortress.



Start off by launching from home base. The mission can start either in the air or right above ground level. The on-board computer screen pops up in the middle of the viewing screen, displaying crucial information about the enemy and its location. A squadron of planes only shows up as one plane on the plane's computer, but a Zoom command displays the number of planes or tanks in a group. Fight the enemy at a lofty 35,000 feet, or at a ground-skimming 10 feet. Enemy forces consist of fighter jets and tanks. The jets are intelligent and fast, while the tanks are slow and clunky.

Your ammo is varied: you have an unlimited amount of cannon shells, which are shot from both of the plane's wings; five guided missiles (which will destroy any enemy vehicle that's in your vicinity); and five heat seeking missles, which are effective against planes and tanks that are visible in the head-on view. When you run out of ammunition, land at home base to replenish your supplies.

The radar window displays the immediate area, with enemy craft showing up as blips. The radar view can be toggled between a default top-down overview and a head-on aspect that shows the blips on an imaginary horizon.

The autopilot makes this game quick and mean. Home in on a tank battalion, position the autopilot cursor over it, kick it in, and your plane speeds up to maximum thrust and magically guides you to the action. Quick thrust is available for a sharp climb or a desperate getaway.

Skyfox features smooth, full-screen animation, although details are sparse; the "clouds" that fly past the plane's windows are extremely similar to the rocks that litter the ground, and there is a distinctive lack of landmarks, except perhaps home base, which is the only group of buildings that you'll encounter.

A wide variety of missions can be fought, and there are many play levels, from a novice air cadet to a true blue aerial ace. If you like this type of game, *Skyfox* will have you flying for hours. — *DB*

KIDSTIME ⸸⸸⸸⸸

List Price: $49.95. Published by Great Wave Software, PO Box 5847, Stanford, CA 94305. (415)-325-2202.

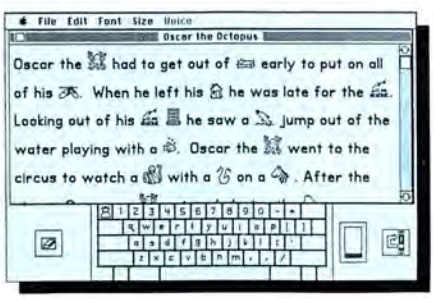
For a computer that's so easy to use, Mac still has very few quality programs for children. *KidsTime* from Great Wave Software addresses that lack with five terrific programs for kids.

The *KidsTime* programs cover a good range of activities, and each program has many options that affect their difficulty level; as a result, kids from 3 to 12 will find this collection interesting. The fact that most of the programs use *MacInTalk* for speech generation makes a good thing even better.

ABKey is for beginners—letters appear on the screen and the child finds the match from the keyboard. Options include upper or lowercase letters, single or double letters, three speeds, voice and pictures. (For pictures, type the first letter of the picture's name.) The options are not mutually exclusive; users can, for instance, mix upper and lowercase letters. An interesting sound and graphic reward appears after enough right answers.

Dot-to-Dot is a terrific adaptation of the pencil and paper game. You don't even have to click on the dots—placing the mouse over the dot is sufficient, which makes it easy for even the youngest child to do by hit-and-miss. Dots can be labeled by letters or numbers of various sizes; when the outline is complete, the rest of the picture shows up. With the editor provided, you can turn any *MacPaint* picture into a *Dot-to-Dot* challenge.

Match presents an almost bewildering variety of options, making it useful to a wide age range. In each game, a truck rolls by and dumps rows of cards on the screen; you have to drag the cards to their proper positions. Sometimes this means putting a puzzle back together; one variation asks you to find the matching letter or shape cards; another option requires you to match letters and pictures. As you make correct matches, those cards are piled up at the edge of the screen, and when the pile gets too big the truck comes by to pick them up again. A special utility program available to registered users lets you create puzzles and match games, controlling both the pictures and the degree of difficulty.



StoryWriter is a mini-*MacWrite* that reads whatever your child types. What makes it extra-special is that you can type pictures with the special Storybook font provided; the pictures are read as words. Even if your child is too young to do the typing, she'll appreciate hearing one that you typed in with pictures.

KidsNotes is unbelieveably sophisticated for being "just" a unit in a package, but then what else would you expect from the makers of *ConcertWare*? Enter notes from the Mac keyboard or from the on-screen piano; specify the time value of each note, or play in real time. The notes are played as you enter them, and appear on a musical staff. You can play back your compositions at different volumes and speeds.

The *KidsTime* documentation is strong on educational theory, but a little light on specific instructions—a few screen shots would help immensely. The whole package is wonderful enough for you to overlook its rough edges— pictures in *ABKey*, for instance, are enlarged from the picture font and thus are ragged outlines. The rough edges keep *KidsTime* from getting a five-mouse rating, but they shouldn't keep you from getting *KidsTime*.—*Sharon Zardetto Aker*

QUICK CLICKS

MACSPEC ⭐⭐⭐

List Price: $199.95. Published by LM Software, PO Box 93, Belmont, CA 94002. (415) 594-0627. Version 1.3 reviewed. HFS-compatible. Copy protected.



MacSpec is a special-purpose word processor. Its purpose is to make the generation of specification documents easier and quicker. Specifications generally must have a rigid, outline-like format, with section, subsection and paragraph numbers. While they can be created on ordinary word processors, the work is, at best, tedious, and, if text must be moved, they can be a real pain (as all the numbers must be changed).

What is required is a program that is also very like an outline processor. But ordinary outline processors are not suitable, as they don't handle the text under the headings well enough.

MacSpec borrows features from both word processors and outline processors. It will automatically number and indent sections (and renumber them correctly if anything is moved). Each heading can have its own text block. The text in these blocks can be formatted on a word by word basis, unlike text inserted in most outline processors. A table of contents can be created automatically.

One feature that takes some getting used to (and a much clearer explanation in the manual) is the pop-up menu used for creating new entries and editing existing material. You must place the square cursor over the heading you want to change or whose text you want to access and click the mouse. An Edit menu will then appear, right there in the middle of the the work area! Make your selection in the ordinary way (by dragging down).

This version did not support graphics, although the Clipboard is supported. A new version (2.0), that will support graphics, has been announced.

A program like *MacSpec* would be useless without good output. *MacSpec* shines here. There are many useful formatting options, including easy to define headers and footers. Printing performance is very good.

The documentation is a letdown. It is both too brief and unclear. Indeed, most users will learn this program by trial and error. That's unfortunate; *MacSpec* deserves a manual as good as it is.

If you create specifications or material similar to specifications, *MacSpec* will be an excellent investment. Don't, however, be fooled into thinking that it can double as a word processor or an outline processor. Given the word processors and outline processors now available, *MacSpec* isn't good enough at either task. — *SB*

MAXTHINK ⭐⭐⭐⭐

List Price: $89. Published by MaxThink, Inc., 230 Crocker Ave., Piedmont, CA 94610. (415) 428-0104.

MaxThink is an outline and idea processor. As is true with products of a similar nature, such as *ThinkTank*, *MaxThink* is a tool that helps users organize and manipulate concepts, ideas, thoughts and details. Outlines can form the basic structure of articles, books, business plans, reports, speeches and other presentations. But *MaxThink* goes beyond outlining in a direction not often approached by computer software — it focuses on helping you think.

There are several levels of thinking, from the very primitive to the very complex. Although we use the whole range of thinking skills at various times, we often are not aware of exactly what processes we use to arrive at a particular point. And most of the time we get bogged down in trivia that prevents us from being able to approach a problem in the simplest, most effective way. The highest level thinking skills — synthesis, analysis, evaluation — are needed to make intelligent, reasoned decisions, but people tend to make far too little use of these techniques.

MaxThink performs several actions on an outline that help support and nurture higher level thinking processes. *MaxThink* will scramble a list in several ways to help you generate new ideas. Select PRIORITIZE and *MaxThink* lets you rotate a list one topic at a time to see how changes in order of presentation affect the outline. This makes it easier to establish a clear set of priorities. Select RANDOMIZE and *MaxThink* jumbles a range of topics into a random order. Select BINSORT and *MaxThink* tosses groups of disorganized ideas into a "bin" where they can be reassembled and properly organized.

MaxThink incorporates some very unusual features. It takes an innovative approach to on-line help, for example. And there is a Fast Move feature, which lets you move a range of topics very quickly. With Fast Move on, when you select a topic it is cut — and it reinserts at the next point you select, chopping two steps out of the Cut and Paste process.

MaxThink has no UNDO command and many of the program operations, such as print options and alphabetizing priorities,



are handled from the Page Setup screen that looks like it came from another computer. This screen is not Maclike and is a pain to use, although the rest of the program is fairly straightforward.

The manual is remarkable. It spends less than 25 pages on the mechanics of using the program and devotes the balance (a little more than 50 pages) to thinking — how to think, what higher level thinking skills are and techniques for ways to approach problems. It is a very effective tool in its own right.

MaxThink gives you a way to bounce ideas off your Mac, and can be a valuable resource. — *MDW*

WORD HANDLER ⭐⭐⭐⭐

List Price: $79.95. Requires 512K+. Published by Advanced Logic Systems, 1283 Reamwood Avenue, Sunnyvale, CA 94089. (408) 747-1988. Not copy protected.

Word Handler is a new word processor for the Mac, the first to appear since Apple unbundled *MacWrite*, although several others are promised for this year. *Word Handler* attempts to combine some of the power of *Word* with the ease of use of *MacWrite*, and in many ways it succeeds.

The *Word Handler* screen has elements of both products. The menus are similar to those in *MacWrite*, with a few exceptions and additions, and the screen presents text exactly as it will print out, with proper pagination and formatting. *Word Handler* can even read *MacWrite* files and convert them, so anyone switching from *MacWrite* will not have to re-key significant files.

Unlike *MacWrite*, *Word Handler* is able to handle text much wider than the narrow screen, and its display can show everything, to within ¼ inch of either edge of a page. Different margins and formats can be assigned by "section," which may mean a paragraph, a page, or any subdivision of a document. A horizontal scroll bar lets you move across the screen.

Word Handler allows users to have up to four document windows open at one time, supporting full cut and paste between documents, and it displays page numbers and word count in small, superimposed win-

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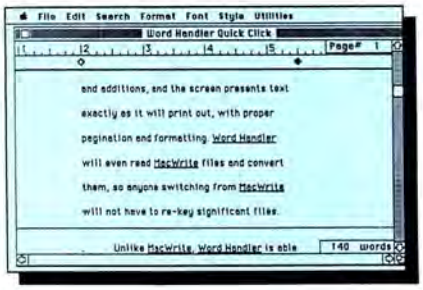
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dows. *Word Handler* provides full access to fonts and styles, although it uses COMMAND-SHIFT-P for plain text instead of the more common COMMAND P, and so on.

Many special operations in *Word Handler* are handled in a menu called Utilities, including making a copy of a document (replacing the SAVE AS option found in other programs), deleting or renaming documents, saving as text only and appending one document to another to create one larger document.

Several nice touches are built into *Word Handler*, including the ability to change text from upper to lower case or vice versa without having to retype. This is a feature that *MacWrite* cries out for. *Word Handler* also has a simple forms generator, flexible printing options and an abbreviation glossary for often-used words or phrases. With the addition of an extra module, *Word Handler* will interface with any of several Mac databases for proper mail merge and ALS has announced an American Heritage dictionary—based spelling checker early this fall.

There are some problems. *Word Handler* is very slow in some areas, especially when translating a *MacWrite* file. The system appears to hang for two or three minutes, but if you wait patiently it will produce a properly formatted document. And the original release version does not support graphics or the standard Mac Clipboard, in any way. ALS has announced a free upgrade (as of September 1) that permits the transfer of graphics via the Clipboard and promises much improved speed.

The only other significant drawback of *Word Handler* occurs when working with documents wider than the screen. For some reason, the program does not shift the display automatically when you end a line or paragraph. As a result, you can type merrily along for some time without seeing what you write.

All in all, however, *Word Handler* is a solid, viable alternative to *MacWrite*, with some very nice features and a very competitive price. — *MDW*

SMART ALARMS

List Price: $49.95. Published by Imagine Software, 2000 Center St., #1260, Berkeley, CA 94704. (415) 769-4033 (orders), (415) 841-0278 (office). Version 1.0. Not copy protected.

My Mac is too valuable to spend all its time being my appointment book. I've tried and given up on many desk accessory calendars, because, invariably, on the day I most need to check and be reminded of an important appointment, I forget all about the calendar.

Finally, there's a reminder system intelligent enough to keep even me on schedule. It's also so easy to use that it actually gets used. It's called *Smart Alarms*, and it's both bright and large enough to be really useful. Its reminder files can hold up to 1600 events, and it will remind you of them exactly as you want. It will call your attention (via bells and a screen display) to anything desired at the time specified or 5 minutes (min), 15 min, 1 hr, 1 day, 1 week or 2 weeks in advance. If any reminders have passed while the Mac was shut off, they are immediately presented upon start up.

Reminders can be set to recur daily, weekly, every 2 weeks, monthly, quarterly or yearly. The ability to set recurring alerts is particularly nice. I have my Mac say Good Morning every day and also remind me when it's a reasonable time to leave.

When an alert appears you have several action choices. You can simply cancel the reminder, or you can be reminded again in either 5 min, 15 min, a half an hour, an hour or in 24 hours. The default value for this dialog box is 5 minutes, so if you're busy when the alert appears, simply hit return and you'll see it again in 5 min.

Smart Alarms comes with a quick and efficient self installer. The documentation is both complete and exceptionally clear. The program is fully HFS- and *Switcher*-compatible. As with all reminder systems, it works best if run off a hard disk or, at least, the same *System* all the time.

Also included on the disk are two ordinary (that is, they must be installed using *Font/DA Mover*) desk accessories. The first is an *Appointment Diary*. This DA is very similar to the many calendar-type DAs currently available. While it has a few more features, such as the ability to create custom page layouts, print out a day's events, and link any entry to *Smart Alarms*, it's not much more than other, similar DAs. It would be more useful if the link with *Smart Alarms* was a two-way link; that is, if *Smart Alarms* reminders could be entered



into *Appointment Diary* directly from *Smart Alarms*. As is, *Appointment Diary* is a nice but unnecessary adjunct to *Smart Alarms*.

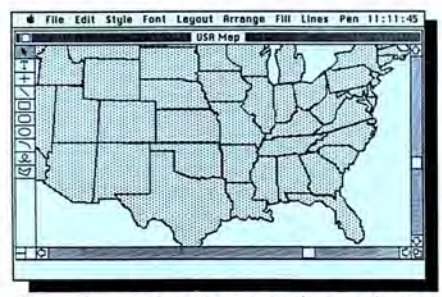
The other DA included is a small, public domain program called *Sleep*. *Sleep*, will, when selected, darken the Mac screen, except for a randomly appearing icon (to let you know the Mac is on). This tool lets you keep your Mac on all day without the risk of screen burn-in. *Sleep* goes away whenever the mouse is clicked or whenever a *Smart Alarms* reminder appears.

Having tried all the other calendar and reminder systems, I wasn't expecting too much from *Smart Alarms*. I expected yet another good program that demanded that I either run it constantly or constantly remember to check it. *Smart Alarms* is more than that. It is, by far, the best Mac reminder system yet created. — *SB*

DRAWART

List Price: $49.95. Desktop Graphics, 400 Country Drive, Dover, Delaware 19901, (302) 736-9098. Not copy protected.

At first glance, *DrawArt* seems quite promising. After all, there are a lot of terrific *MacPaint* clip-art disks available — the idea of bringing out a clip-art disk of *MacDraw* images is long overdue considering the number of people who *MacDraw* their graphics nowadays instead of *MacPainting* them. Unfortunately, the first *MacDraw* clip-art to cross our desks is a far cry from what we expected.



Users will know there's trouble the minute they open the box. The first thing most people will notice missing is some sort of image index that lets them quickly scan the images without having to print out their own sampler. As a matter of fact, the documentation consists solely of an article originally published in *MacUser* (November, 1985) called "Mastering MacDraw." Now, while we can (immodestly) say that the article contains a lot of useful information, it would have made a far better add-on — to a short image index — than it does a stand-alone instruction booklet.

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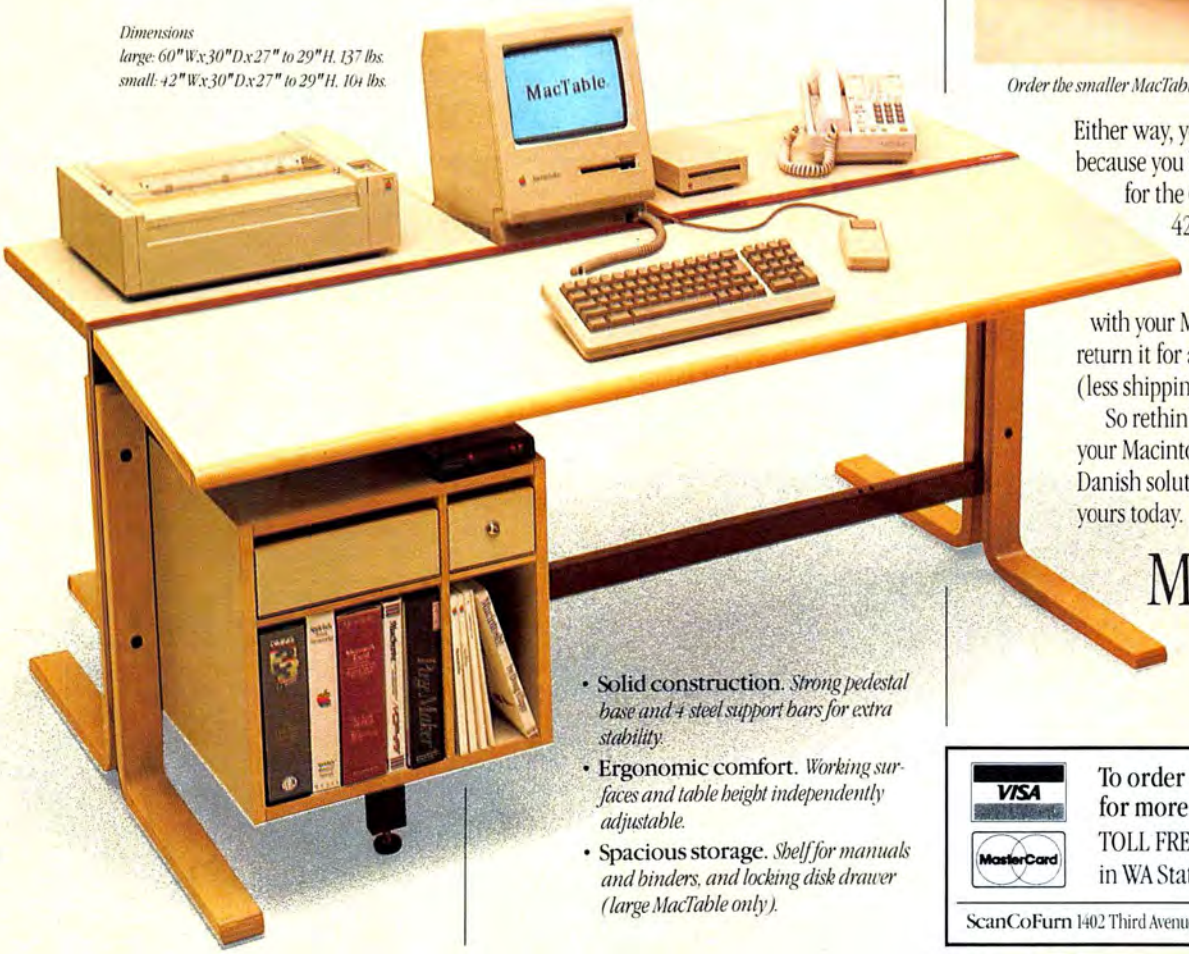
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QUICK CLICKS

The graphics themselves are a completely mixed bag. Some are outstanding. Some are terrible. And most are somewhere in-between. The contents of the clip-art seems to have been almost an afterthought — for example, Ian McKinnel's Bimota motorcycle is there, and while it's certainly a beautiful motorcycle, how many people are going to find that having a rather large, detailed picture of a motorcycle is essential to creating their business or desktop publishing graphics? It would have made much more sense to include a collection of people, animal and object illustrations geared much more toward business — or at least, personal — use.

The images seem to have no rhyme or reason, but rather look like they were created for other purposes (which in fact many of them were) and then simply thrown together on the disk. For example, the graphic under the title Bridge is a lovely, three-dimensional line drawing of a bridge seen from two different angles. But again, how many of us need a line drawing of a bridge? This is mixed in with a cartoonish, huge-eared mouse, a picture of a broken pencil, a set of large, filled-in letters and our personal favorite on the disk, a create-it-yourself calendar page (just move the calendar over the page until the right number shows on the right day of the week). But the assortment is too ragtag, and few users will find more than one graphic really useful.

MacDraw clip-art is a great idea whose time has come. Unfortunately, in spite of *DrawArt*, most *MacDraw* artists will have to wait a little longer for the reality to match the concept. — *TFH*

PHOENIX 3D ★★★★

List Price: $39.95. Published by Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. (904) 396-6952. Not copy protected.

The first thing that you notice about *Phoenix 3D* is its $39.95 price tag. For the cost of a game, how good can this program be?

The answer is not too bad, even though *Phoenix 3D* is not a professional level CAD package by any standards. It *is* an easy-to-use graphics program that combines the best features of programs like *Easy3D* and *Mac3D*, with some additional capabilities that you wouldn't expect in a program of this price.

A variety of drawing tools produce basic three-dimensional shapes, such as cubes, spheres, polygons, pyramids, plus some two-dimensional primitives (with the glaring omission of lines). These shapes are pliable, and can be reshaped along any vertice, much like *Mac3D*. Click a button, and the Tool Palette slides away to reveal a View Palette that allows lighting and viewing vantage point to be specified.



There's a substantial selection of rendering modes: wireframe, hidden line removed, translucent (hidden lines appear as dotted lines), standard shading (facet lighting) and smooth shading. Using smooth shading with complex objects can take a while, but the program informs users of this fact before beginning the rendering, giving them the option to cancel the procedure.

Two light sources (referred to as Sun and Moon) can be activated for the various shaded view modes, and both of these can be moved around in space. Those lights' intensities, as well as the ambient light, can be fine tuned. A unique feature allows the lights to be locked on the model, allowing it to be moved in space without disturbing the lighting effects.

The documentation is quite complete, with full explanations of all the program's functions plus information regarding file formats (for programmers). An accompanying program lets you convert *Phoenix 3D* files into text files, to conserve storage space.

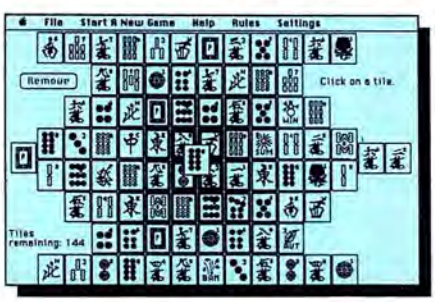
Phoenix 3D (Level One) does things that a program in its price category simply shouldn't. And at this price, it's more fun than a lot of Mac games. — *DB*

SHANGHAI ★★★★★

List Price: $44.95. Published by Activision, PO Box 7287, Mountain View, CA 94039. (415) 960-0410.

If you tend to be an obsessive person by nature, maybe you'd better not try *Shanghai*. It's kind of like eating potato chips—you won't want to play just once.

Shanghai borrows elements from mah-jongg and pick-up-sticks in equal doses. Basically, it works like this: At the start of the game, players are presented with a game board filled with mah-jongg tiles arranged in what the manual calls a "dragon formation." There are 144 tiles in all, but some are buried in stacks up to four tiles deep. The object of the game is to remove all the tiles from the board by matching them with exact duplicate tiles (there are two exceptions to this—read on).



Of course, it's not as easy as it seems. In order to be removed from the board, a tile must be "free"—that is, you have to be able to "slide" it to either the right or the left. A tile stacked on top of another is considered free if it can slide over the tiles next to it, which is possible if its stack is higher than those next to it. Stacked tiles are indicated by thick borders around their edges. The thicker the border, the more tiles are in the stack.

There are four copies of each tile, with a few notable exceptions: the four seasons are each represented by one tile each, but these can be matched with any other season tile (for example, a Winter-Spring match is acceptable). The same applies to the four different flower tiles, each of which matches any other flower tile.

The basic strategy is to free up the top and sides of the formation first, which leaves the most tiles free for other match-making. Long rows of single tiles (not stacked) present the most problems later in the game, so a good strategy is to try to whittle them down early in the game. The strategic implications are completely different with each new game.

The game is very well-constructed, with a number of options that should satisfy every kind of *Shanghai* fan. For novices, a pull-down menu displays each of the tile types at the press of a button, and a rules refresher course and strategy section are other options in the same menu. Another menu lets players show all moves that remain in the game (a great help when you get stuck), back up a move, restart the same game, or peek under stacks of tiles (the latter requires you to forfeit the game entirely, though).

The program can automatically generate a new, random game every time you play. The disk also includes a number of predesigned games. Game options include Solitaire, Cooperative (there seems to be little difference between these first two), Challenge (two players work on a single puzzle competitively) and Tournament. In competitive modes you have the option of timing your moves or using an indefinite clock.

About the only thing missing from *Shanghai* is a fake spreadsheet alarm button, which would let people test their strategy skills without the boss catching on. But even after you've seen the dragon breathing a congratulatory salute, your hand will reflexively go back to the new game menu. Just this once more, you'll tell yourself. Really.—*TFH*

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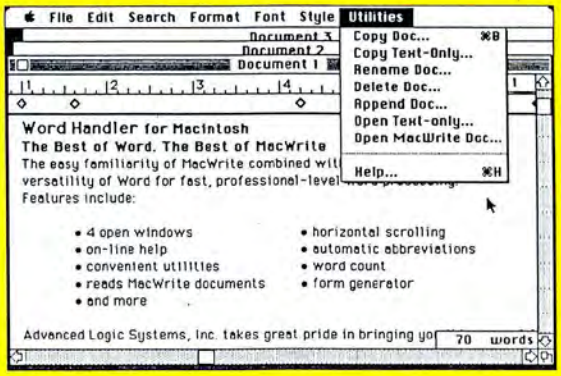
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IT'S IN THE WORKS

Microsoft Works Offers Total Integration for the Mac Plus.

by Neil L. Shapiro

[Editors' Note: This review was prepared from prerelease copies of Microsoft Works *supplied to us by Microsoft. The version used was complete and final, except for several minor bug fixes. The documentation consisted of xeroxes of the final proof of the manuals, complete with all art.]*

YOU CERTAINLY HAVE TO HAND it to the people at Microsoft; they understand the Macintosh interface and how to design programs for the Mac as well as any company in the world and better than many. The new *Microsoft Works* program is an integrated and yet introductory package that will have you mousing its word processor, spreadsheet and charting, data base and telecommunications subprograms in a very short time.

In fact, *MS Works* is so easy to get into, so intuitive, that if you have had even a modest amount of experience with Macintosh programs before, you may find yourself learning the program from its 30-page "Quick Reference Guide" rather than from the hefty manual. The manual itself is up to Microsoft's best with step-by-step summaries and in-depth guides to all of the various procedures (and there are a myriad of them) contained within this exciting program.

MS Works is more than just a new program. It embodies a new philosophy of marketing and design. We've seen many integrated software packages in the past that were designed for the top-of-the-heap businessperson. Such super powerhouse programs will let a mogul with a Mac run any sort of international cartel with voltage left to spare.

Of course, the investment to buy such a program might call for a stock option. And, it wouldn't hurt to have a staff of people at one's beck and call dedicated to figuring out how to use and access all of such a program's power.

MS Works is an attempt to serve most of the computing needs of the average Mac user with one affordable program. Microsoft's idea is that if you do outgrow *MS Works,* well, pick up a copy of *Excel,* or *Word,* or both.

How close does *MS Works* come to fulfilling this goal? Is it really going to be the one program that you will ever need? Before we can answer as to the program's worth as a whole, let's take a look at its parts.

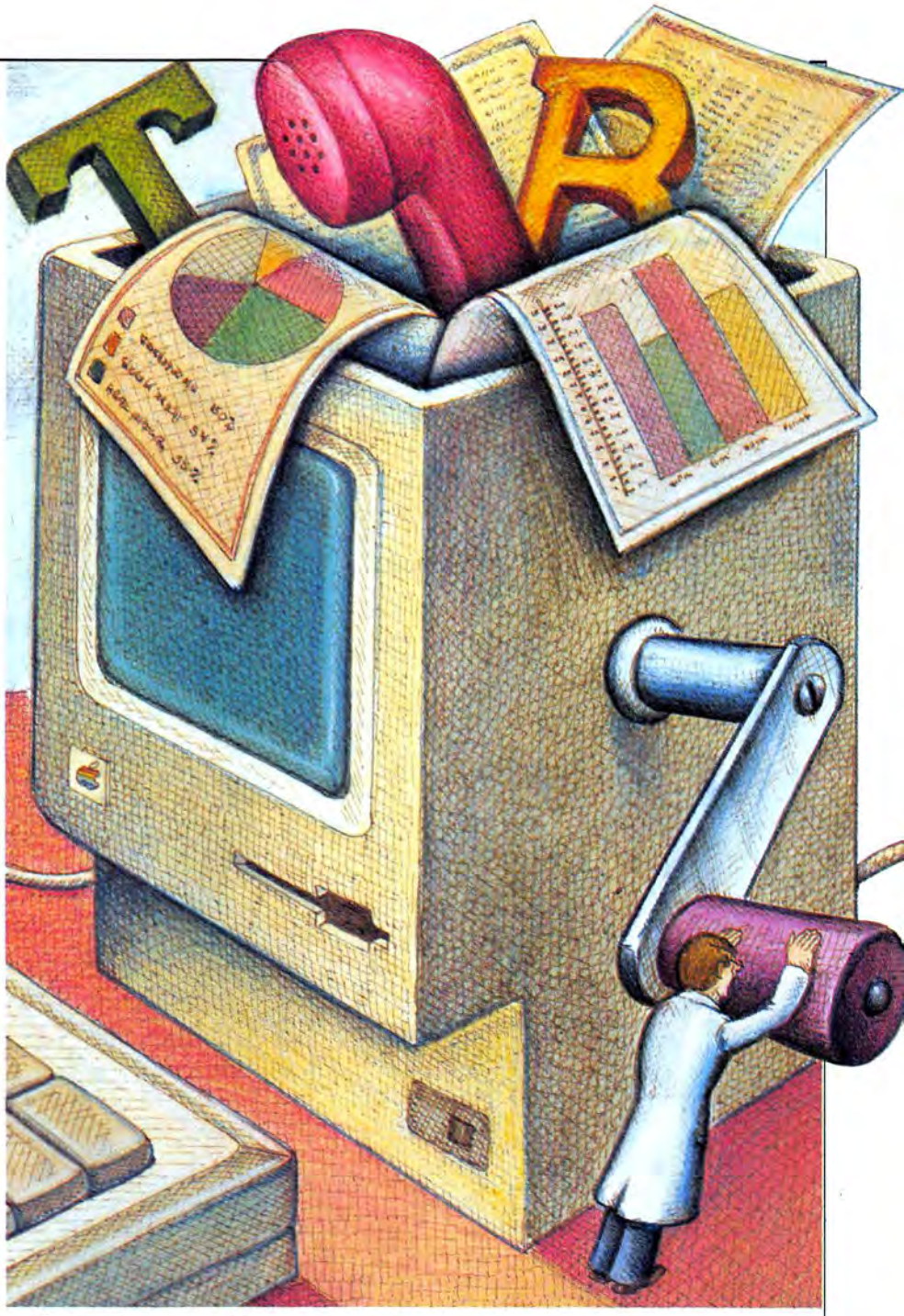
THE WORD IS NOT "WORD"

Take Microsoft *Word,* throw in an equal helping of *MacWrite* and a tiny dollop of *MacPaint* and skim off all the fat and there you have it, the recipe for the word processor section in *MS Works.*

All the usual text-editing commands work as most Mac owners have come to expect. Double-click on a word to highlight and select it for cutting or copying; drag the mouse cursor through a range of text to select that. Position an insertion point cursor (using the mouse) any place on the page, while you can scroll the text window by dragging the mouse off the top or bottom of the screen.

The Mac Plus keyboard's directional keys are supported. It is possible to position the cursor anywhere on-screen by using these four keys. However, because there is no way to simulate a double-click or to simulate holding down a mouse button while using these keys, they cannot be used for dragging and selecting.

That's a shame, since some word processors on other computers (notably *AppleWorks* on the Apple II)



allow quite a bit of "mouse-style" selecting with such keypad directional keys using various ways to keyboard-simulate a mouse button. For now, the Mac Plus directional keys can be mostly used (in this word processor subprogram) to scroll the screen up and down without resorting to dragging the mouse or clicking on the up and down arrows in the vertical scroll bar.

Like Microsoft *Word*, the *MS Works* word processor is a paragraph- and line-oriented word processing system. A format ruler can be called onto the screen at any time. Whatever is established on that ruler as far as left margin, right margin, tabs and indentions will affect only the paragraph that the cursor is within. If, however, the paragraph selected is the last paragraph in the text, the ruler's settings become the default for successive paragraphs as they are typed in.

Also, as in *Word*, the cursor may be moved to the extreme left side of the screen, where it changes into an arrow pointer. In that position you can click to select a line, double-click to select a paragraph or drag to select an area of the document.

Selected text can be set flush left (ragged), flush right, centered or justified using the Format menu. Again, like *Word*, these changes apply only to the selected paragraphs or lines.

But unlike *Word*, setting the font and style of the text is not done via a dialog box. Instead, two menus that are similar to *MacWrite* 4.5's Font and Style menus allow you to mouse such effects into being.

The Font menu lists whatever fonts are available in your System folder. Choose a font with the mouse and the chosen font is checkmarked. There's a quirk here: the fonts don't appear in alphabetical order as you'd expect on a machine with the new ROMs, but rather they appear in the reverse of the order they were installed in. That is, the last font installed will be at the top.

The Style menu allows you to set textual effects such as bold, italic, underline, outline, shadow, super- and subscripts as well as setting the type size as measured in points.

As in *MacWrite*, page breaks are shown on-screen as you enter text. (This, in my opinion, is a far better method than *Word*'s requirement to hit a command key and wait to see the page breaks.)

As in *Word*, Page Setup allows you to print to just about any size of paper. It's easy to design various margin sizes to fit your work onto whatever medium you are printing.

The FIND and REPLACE commands are both easily used via the Search menu. And, that menu's GO TO PAGE # command can take you swiftly to a specific area of your document.

The word processor function does lack some features of its big stablemate, *Word*. In *Word*, it is very easy to copy a format from one paragraph to another. It is less easy in this word processor. There is no ability to make on-screen measurements in printer's terms (points and picas). And you can't do multiple-column layouts.

Remember the tasty dollop of *MacPaint* promised? Under the Edit menu is a command called DRAW. The DRAW command, when chosen, brings up a dialog box from which

CHARLES WALLER

you can choose some drawing tools. However, compared to *MacPaint*'s or *MacBillboard*'s storehouse of artistic tools and techniques, this is a stone-age drawing ability.

The dialog box allows users to choose from 12 primitive shapes. Hollow circles, rectangles and rounded-corner rectangles may be drawn anywhere on a page as may lines — all in three different line widths.

As in *MacPaint,* you position a corner of a rectangle and drag until the rectangle grows to the size and shape you want. Then just drop it on the page.

You can then return to typing, and type over, or up to, or around the various lines and shapes you have drawn. Or, you can type first and then drop lines and circles into position around your previously entered text.

The Draw function was somewhat disappointing, although in some respects it is revolutionary to see it in a word processor. For one thing, every time you change a tool you have to first quit the draw mode and then reenter it. Second, there are far too few tools available. There is no lasso or selection rectangle, eraser or paint-bucket. Indeed, there is no way to shade shapes. And, most surprising of all, there is no pencil to draw with freehand or with which to flourish your signature.

The Draw feature will come in very handy for some people as it does allow for the look of various business forms to be transferred to the screen. But other people will find the function more tantalizing than useful in its present incarnation.

All in all, the word processor in *MS Works* is more capable than *MacWrite* 4.5 and, in some respects, easier and more enjoyable to use than *Word.*

SPREADING IT ON

Let's get this said right away — the spreadsheet in *MS Works* is not going to keep *Excel* buffs up all night. Neither will it seriously threaten the positioning of *Multiplan.*

What you get in the spreadsheet and charting subprogram is a very workmanlike spreadsheet that follows the Macintosh interface, coupled to some modest abilities to chart the figures sheeted.

The 230 columns (labeled alphabetically) by 9999 (numbered) rows result in over two million possible cells (OK, if you insist, it's 2,299,770). Of course, you will only be able to use as many cells as memory allows, and that will be about the same on any spreadsheet for the same information.

The Mac interface here is pretty much the same Mac interface as in *Multiplan.* Click on a cell to highlight it, or drag on a range of cells to highlight more than one. The Mac Plus directional keys are supported (again, with no way to keyboard-simulate clicking the mouse button in order to drag).

As in *Multiplan* and *Excel,* selecting a cell and typing takes you to the edit line at the top of the form. As you type you can use the usual text-editing elements (double-click to highlight a word, click to insert cursor and so on) on that edit line to correct what you are entering. You can accept what you have entered by hitting return or clicking on a check-mark icon — or you can easily delete everything on the edit line without entering it into a cell by clicking on the large X-shaped icon.

Yes, the same Mac interface that took the spreadsheeting world by firestorm in 1984 is all here. You can resize column widths by positioning the cursor on a column border and dragging that column's border. You can select entire rows or columns with a simple click, and you can easily drag to highlight cells all around the sheet.

It's easy to design formulas. If a formula is needed to add one cell to another, simply click on that cell, type a plus sign, click on the next cell and so forth. To select a range of cells for a formula function to operate on (such as SUM) just drag to highlight the range of cells the function should act upon.

There are 64 of these functions which include categories in math, statistics, trigonometry, logic, finance and some special-purpose ones. For most uses, the functions represented in this spreadsheet subprogram are all that will be needed.

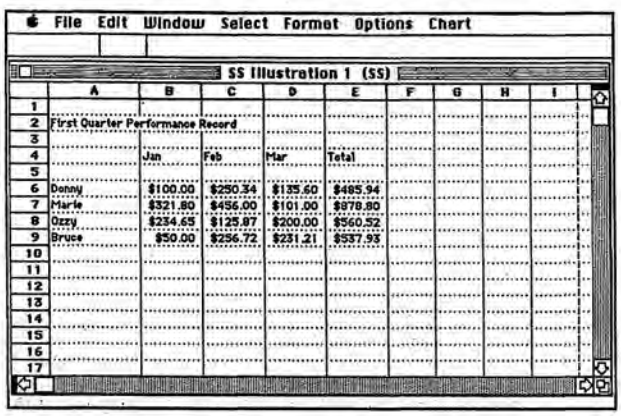
It's easy to use these functions, thanks to the PASTE FUNCTION command in the Edit menu. When this command is chosen a dialog box that can scroll through all of *MS Works'* various possible functions is presented.

Formatting a spreadsheet is also quick. Once selected, the contents of each cell may be aligned left, right or centered within the cell with a quick selection and click.

Numbers may be displayed in a generalized format, or in fixed, dollar, percent or scientific formats. And the number of decimal places, and whether or not to use commas, may be set. All of these commands are available under the Format menu of the spreadsheet.

Another nice touch is the ability to set each individual cell as normal text or as either bold or underlined text. However, there is no capability for utilizing different fonts or special effects such as outline or shadowing.

The gridwork of lines defining rows and columns can be turned on



MS Works'* powerful spreadsheet is similar to *Excel.

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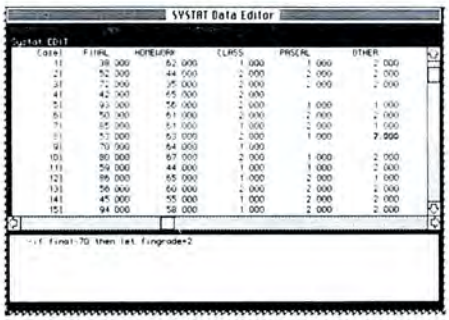
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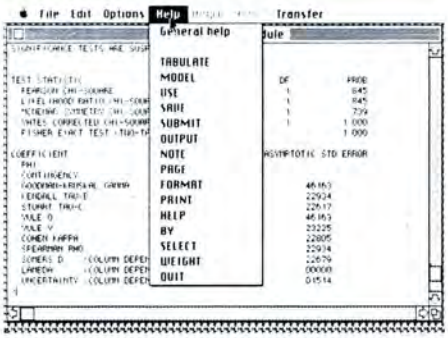
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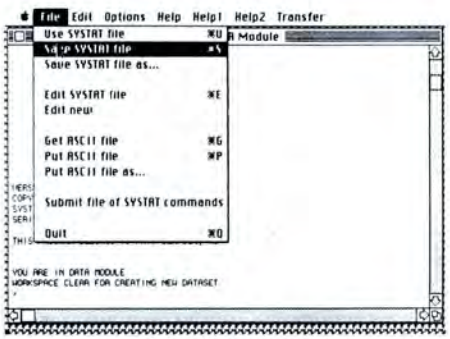
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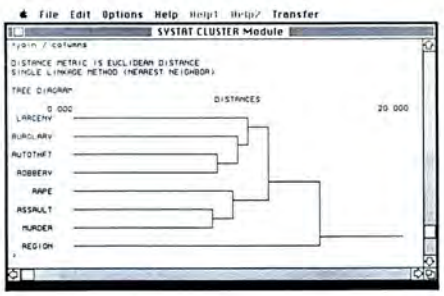
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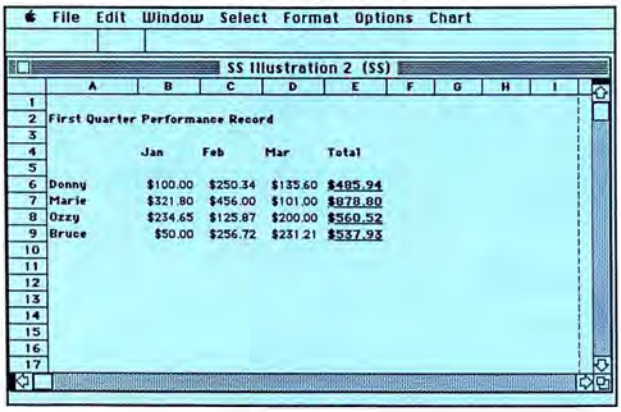






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or off under the Options menu. This is unlike *Excel* wherein each separate cell's four individual borders can be set. So if you want to make a spreadsheet that looks like a business form, it's back to the word processor segment. Other Option menu commands include the ability to protect cell fields as well as to engage and disengage manual recalculation routines.



Turn off the grid and format individual cells to make your tables more readable.

Oh, and did someone mention the capability of split-screen? That's the ability to set up "panes" of information within the window being worked in. *MS Works* allows a window to be split into four panes. You can split both horizontally and vertically.

Once your values are spreadsheeted you can avail yourself of the Chart menu to see series and/or pie charts based on your data. However, in keeping with the *MS Works* philosophy of positioning itself as an introductory package, the charting facilities pale next to those of either *Chart* or *Excel*. On the other hand, if it does what you need then that's probably all you need.

What the routine does do is to present a quick and easy way to get an on-screen chart (series or pie) and a printout of that chart.

When you choose to plot a new series chart you first enter a Definition Screen dialog box. This box allows you to choose between four types of such charts; line, bar, stacked charts or a "combo" chart of both line and bar graphed on the same set of axis.

In this dialog box you tell the program where to find the rows and columns of data that need to be plotted, and where the rows and columns are that will serve as markers for the horizontal and vertical axis. You can also type in a title for the chart itself as well as titles for both X and Y scales. Although the program attempts to automatically fill in these choices, based on default values for where such data and labels are to be found, you will almost always have to manually correct these values in order to obtain a useable and properly informative chart.

Doing a pie chart follows along a similar route as to the Definition Screen dialog box. But, there is only one style of pie chart offered, so there are no stylistic choices to be made.

The wealth of formatting commands (typographic special effects, area resizings and so forth) along with many different, additional styles of charts found in *Excel* and *Chart* are all unimplemented in *MS Works*. But that's not necessarily a negative feature, because of the market for which *MS Works* is targeted. The charting capability of this program fulfills its most basic goal, which is to present data to the user arranged in a pictorial manner so as to make it easier to spot such things as trends. For all but high-level business use and presentations, *MS Works*' charting features should more than suffice.

A LUST FOR LISTS

The data base and list feature of *MS Works* are very complete, easy to use and comprehensive. Defining your data base in the Database Form window is mouse-oriented. A dialog box first asks if you want to add a field, and what that field's title should be.

The title appears as a box on the form with another boxed, empty space following it. Using the mouse, the user may position the field title anywhere on-screen. Once the field is positioned the field length is adjusted, again via mouse, by dragging the margin of the boxed, empty space so that it contains the proper number of spaces for that field.

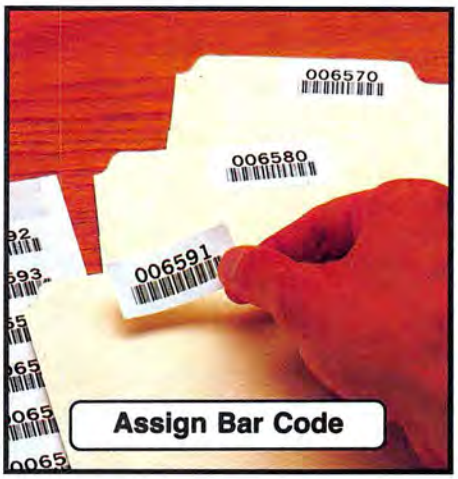
Field attributes are set by choosing a field and then selecting SET FIELD ATTRIBUTES from the Edit menu. Possible attributes include selecting fields to function for text, numeric, date or time data. Various styles are available for each of these attributes to help format the data as well as aligning to the left, right or center of the data's cell in the List window (explained below). The data may also be typographically formatted in each separate field as bold, italic or underlined (but without font changes or size changes).

Computed fields are also easily designed. A computed field will obtain its data from the data in other fields. When you click on the Computed field choice, you will be asked to type in a formula, which can interrelate the various numeric fields you wish to work with. Such a formula may contain most of the functions that could be utilized within a spreadsheet (except functions, which call for ranges of data). Field names may be entered into formulas simply by clicking on the field name(s).

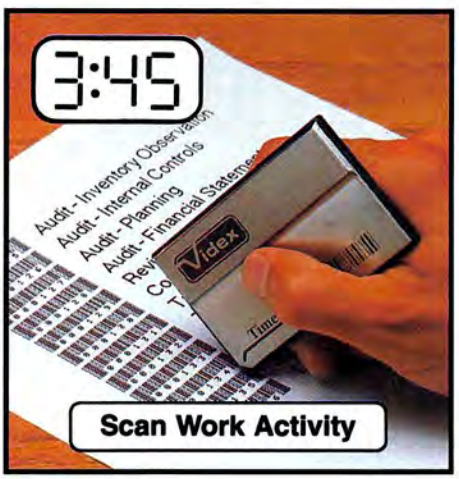
Fields are added one after the other in this manner until a complete form is designed. While the actual look of the form is only a visual frill, it serves an important use because the Database Form window may be the only way to see all fields of a complex record at the same time.

Another way to view your data base is to use the List window. The List window looks remarkably like a spreadsheet, with each column being headed by the name of a field and each complete row containing one record of multiple fields, and it can

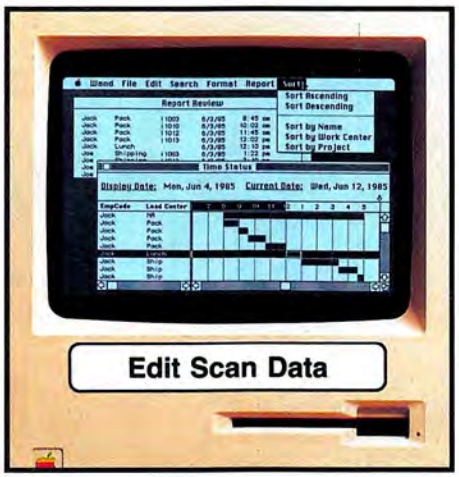
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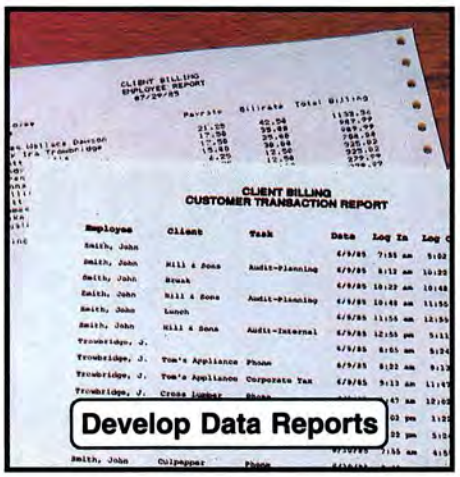












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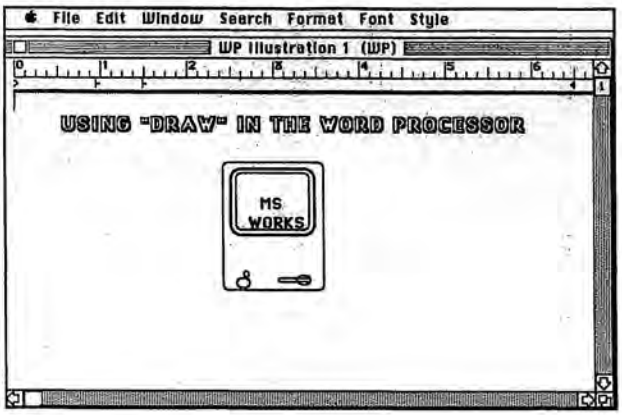
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function in a similar manner.

It is possible to click on a List window cell and add, edit or delete an individual entry for a field within a record. When a cell is chosen the edit line at the top of the window works exactly the same as in the spreadsheet area and gives you access to all of the Mac's text-editing capabilities for the data you're entering.

In the List window, you can easily change the presentation of the fields as far as their order. If you want field one to come after the present field three, just click on field one's heading with the mouse and drag the entire field to its new position. The other fields will move to compensate.



***Works'* word processor is a cross between *MacWrite* and *Word*, with some features all its own. The graphic shown here was created using the word processor's own, built-in graphics tools.**

An interesting thing to keep in mind is that the List and the Form windows are completely separated as to such changes on one affecting the other. For example, if on the Form window you have designed a "Name" field as field #1 and an "Address" field as field #2 it will not change that order of presentation on the Form window if you shuffle the fields about in the List window. The List window (which, keep in mind, looks like a spreadsheet) and the Form window (which is an informal full-screen presentation) are simply two independent methods of visually tracking the same data. The data always remains constant, only the representations change.

Once you have entered the data you will probably want to work with it or, as the power users say, "massage" it. *MS Works* is one of the friendliest of electronic masseuses.

Fields can be quickly sorted by selecting and highlighting the field name in the List window and then mousing to the Organize menu and choosing SORT. Such sorts may be done alphabetically and numerically as well as chronologically (and always in either forward or reverse order).

The *MS Works* massage really begins to knead its magic with the MATCH RECORD and RECORD SELECTION commands under the Organize menu. MATCH RECORD presents a dialog box into which you enter any string of numbers or text. Then *MS Works* will simply find the next record that contains what has been entered and highlight it for you.

The RECORD SELECTION process is more complex, but quite powerful. This command allows users to generate up to five logical "rules" with which to search through every record in a data base and select those, and only those, that fulfill all of the rules.

Rules are extremely easy to generate. Generation of rules is intuitive and fully conforms to the Macintosh interface. When the SELECT RECORDS command is chosen a large dialog box appears. At the top of the dialog box are two list boxes. Within the first list box are all of the field names that make up each data base record. The second list box contains rule "operators" such as "equals," "contains," "begins with," "is greater than" and so on.

Want to find all records in your phone book data base on people with the last name of Jones? If so, just click on the field name of "Name" and then on the "Equals" operator and then type Jones into the text box provided. Choose select and all the people you know named Jones will have their records presented to you.

You can continue stringing rules together in an "and/or" manner by clicking on the buttons in the dialog box which control these modifiers. You can wind up with a rule that will search for "Name" fields containing "Jones" and "Address" fields containing "New York" and "Phone Number" fields that do not contain the word "unlisted" — and so on.

The data base in *MS Works* is truly intuitive and a pleasure to use. Of course, it does not have many features of more complex data bases such as hierarchical file structures, graphics support and the like. But, again, for the target audience it hits a bullseye.

THE TERMINAL END

Telecommunications has become a way of life — and business — for tens of thousands of Macintosh owners. *MS Works* also allows the user to utilize his or her modem to access on-line services, networks, BBS systems and other Macs and computers.

While the terminal subprogram could not fairly be described as "bare bones," it lacks a number of features that are available on almost every commercial standalone product. On the other hand, it is more complete than any terminal program in any other integrated software package for the Macintosh.

You can easily, via a Settings dialog box, change and set such variables as baud rate and parity — all of which are settings that must be made with any terminal program in order to "match" your Macintosh to the computer that you are calling.

Dialing the other computer involves setting up a phone number dialog box under the DIAL command. In this dialog box you can type in up to eight names of services or computers that you call and an associated phone number for each one. After you have done that it is a

(continued on page 161)

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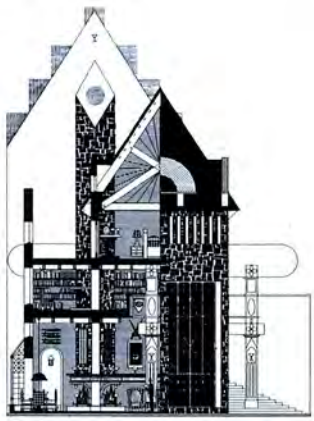
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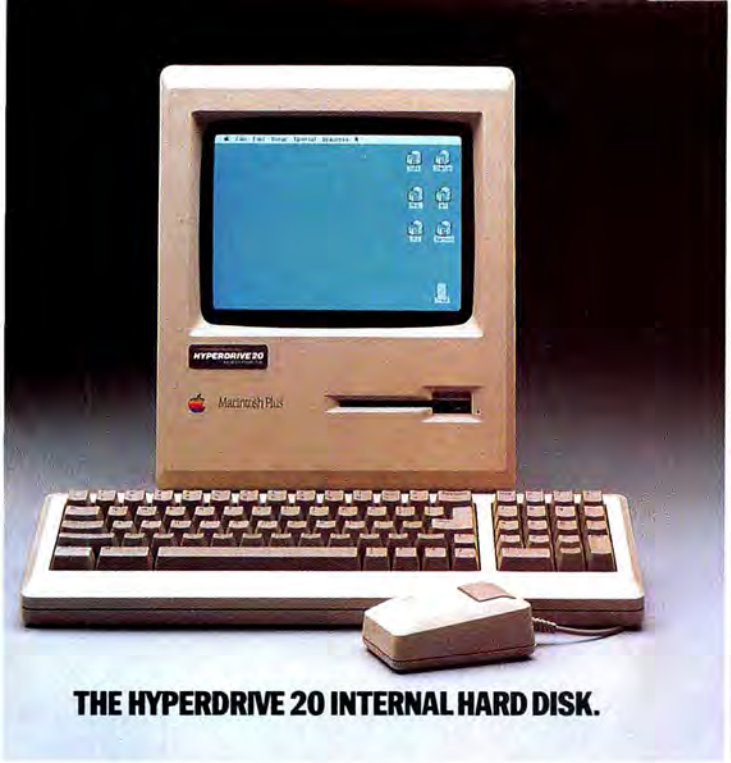
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INTRODUCING HYPERDRIVE FX/20.

When General Computer introduced HyperDrive, it set performance standards that remain unmatched by all but succeeding HyperDrives.

That's because HyperDrive was installed inside the Macintosh, where it connected directly to the microprocessor and was accompanied by software that made the most of this unique arrangement.

Now General Computer engineers have set their sights outward. And designed the first external hard disk with the inner strengths of HyperDrive.

THE FASTEST FULL-FEATURED EXTERNAL HARD DISK.

HyperDrive FX/20 not only runs all software programs developed to Macintosh or Macintosh Plus standards; it runs them faster than any other external hard disk.

Plug it into the Mac Plus' SCSI port, and it will reduce power-up time by 66%. It will load Aldus' PageMaker over one and a half times as fast as a Mac Plus. And Microsoft's Excel two and a half times as fast.

But unlike other external disks, HyperDrive FX/20 brings both speed *and* sophistication to the management of information.

A program called Backup, for example, lets you quickly make back-up copies of files onto diskettes—and checks to make sure each copy matches its original.

A print spooler program lets you use your Mac for other documents even while your LaserWriter is still busy printing the one you just finished. And it reduces by up to 90% the time you might otherwise have to wait.

A security program protects your files from unauthorized entry. It scrambles data so that it's indecipherable to everyone who doesn't know the password you assign it.

The FX/20 also *stores* information intelligently. Its 20-megabyte capacity accommodates the data that would otherwise occupy up to 50 diskettes. Files are structured hierarchically. So your data is dynamically stored and retrieved, and you don't have to partition the hard disk.

In short, with the FX/20, as with the Macintosh itself, elegance is more than cosmetic; it is designed into the system, and measured by functionality rather than just appearance.

NEW WITHOUT THE PENALTIES OF NEWNESS.

HyperDrive FX/20 arrives with the paradoxical advantage of being both new and proven at the same time.

Its software has been proven on previous HyperDrives. And its overall reliability is perhaps best summed up in the fact that HyperDrive is the largest-selling Macintosh peripheral in the world.

It's also backed by a ninety-day limited warranty and over 1200 authorized General Computer dealers nationwide. Additional serenity is available in the form of an optional service program (HyperCare) that lets you extend your coverage almost indefinitely. (See your local dealer for complete details.)

So if you prefer an external hard disk, you no longer have to settle for performance beneath the standards of HyperDrive. And if you prefer an internal hard disk, that issue was resolved in favor of HyperDrive some time ago.

The issue then becomes which form of HyperDrive you prefer: visible or invisible.

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GENERAL COMPUTER

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AS THE HELIX TWISTS



Double Helix *makes*

user friendly

custom applications

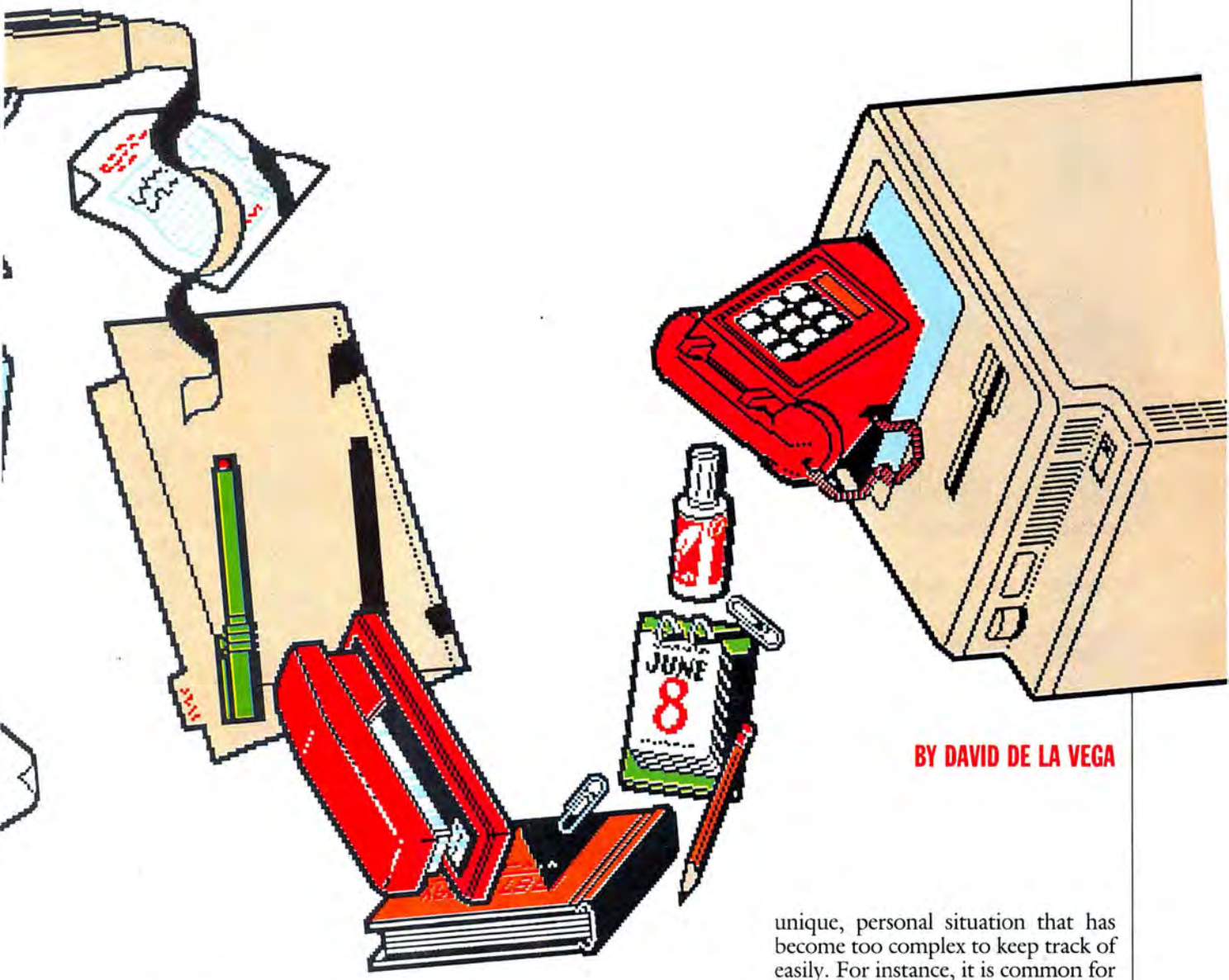
easy for all.

STOP FOR A MOMENT, PLEASE, and take a look at the "family tree" of Macintosh databases. The first generation (year one) gave us ease of use, but few new features. During the next year (the second generation), great computing power arrived, but still, the domain of a Mac programmer or applications builder was a complex, esoteric one at best. Choices were limited to languages like Pascal, C, Forth and 68000 Assembly.

Even the medium-level languages found in programs like *MacLion, Omnis* and *Excel* require a line command style input and make you repeat seemingly extraneous characters ((such as) {parens}, [quote] marks, "brackets" (and the like)).

Now a third generation has arrived, in the form of *Double Helix*. *Double Helix* automates all that stuff. You are able to build at the highest level possible, which means true click and drag programming!

Double Helix is an environment to generate custom applications built around a database-type framework. It contains enhancements to *Helix*



IAN MACKINNELL

BY DAVID DE LA VEGA

version 2.0 and adds several new features, including custom menus, subform windows, relation/collection password protection, and a universal dump and load (parser).

Within the framework of a database structure users are able to build, use, and modify or expand a complete small business application. As many separate databases (relations) as you want can be linked in almost any pattern you could think of. For instance, you might have clients, inventory, sales orders, invoices, payments, production, purchase orders, employees, etc. *Double Helix*'s subform feature gives you multiple lists from different databases compiled and displayed in a single window.

A few examples: one relation might create mail-merged form letters complete with calculated fields for quotes, choose between various stored paragraphs or pictures based on numeric data, and include a client's logo. Another relation might create financial tables and reports, available for printing within minutes of data entry. This, for instance, could be a warehouse daily report of truck deliveries sent as a simple text file via modem and loaded into an accounting relation.

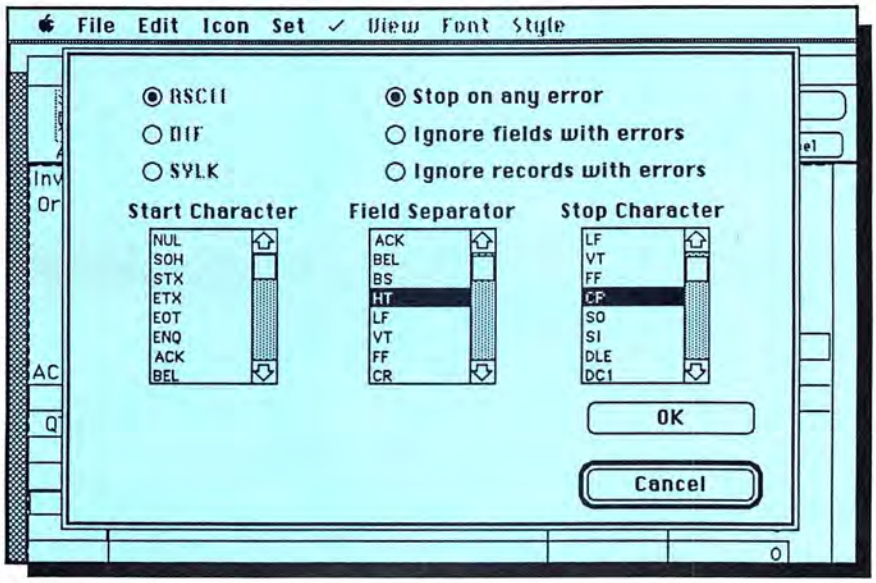
APPLICATIONS

Double Helix really starts to stand out from the database crowd when you want a program to handle a unique, personal situation that has become too complex to keep track of easily. For instance, it is common for someone to run a small business out of their home, manage an apartment or several rental properties, help with club or union dues and mailing, keep track of inventory for a hobby like photography, and perform several other tasks in the course of a single day.

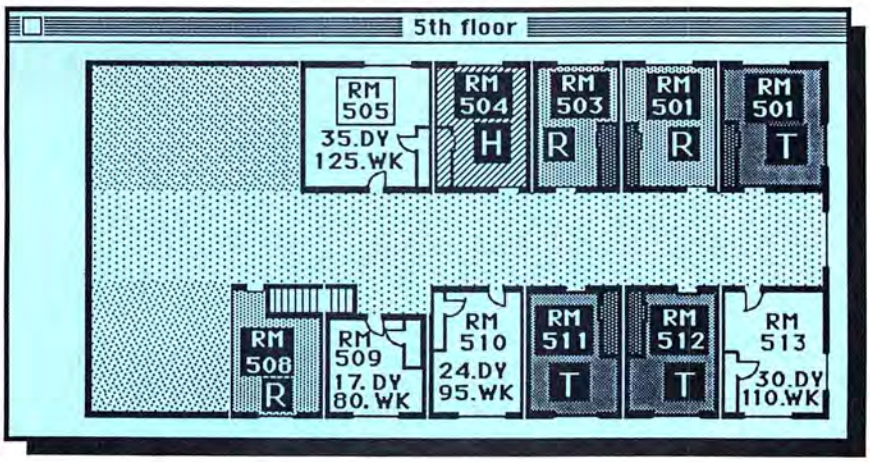
Without great difficulty, a template could be written to do all these tasks. It could display lists of what needs to be done on a priority basis or read out your up-to-the minute complete financial situation. A *Double Helix* template could combine your address/mail lists, appointment calendar, phone log, written correspondence, checking records, expense account, and anything else you might think of.

Flexibility in creating a custom

AS THE HELIX TWISTS



Any ASCII character may be selected, but you may have to muck around first to determine just what field separators your text file uses.



In this example of a small family run hotel, we see a floor level status window. There would also be an overall view of all the floors with each room as a small box either black or white. Another view would be at the room level showing furnishings, fixtures, occupant, check -in/check-out date/times, etc.

application opens up new possibilities, but it also makes users sit down and really analyze exactly what their needs are. Precisely defining one's specific computing and printout needs is really the hardest part in creating a *Double Helix* template, that is, what information is to be input, what calculations need to be made and what method should be used to compute the answer, what is to be saved to disk and what is to be looked up, will you use preprinted forms, and several other details.

Getting down to actual programming is the easy part. *Double Helix* 's simplified iconic style even makes it enjoyable to think up new features for yourself and make them happen in a few hours (days). Our big blue counterparts still need to call in the programming specialist, who gets a staggering salary and takes two months (years) to create that new smart (autogenerated from invoices) sales commission/payroll module.

The custom menus feature of *Double Helix* has to be one of the finest examples of the Mac style. To create a menu heading, click in the menu area and type. Then scroll through a list of windows (selections) and drag the name right up to the menu heading. Click OK. Think you can handle it? If not, there is an AUTO button that creates one menu heading per relation and one menu item for each selection window.

It is important to remember that *Double Helix* is concurrent with the much-heralded age of desktop publishing. *Double Helix* creates a wide variety of output screens and reports that go hand in hand with the new generation of 300 DPI and up laser and very high resolution typeset quality printers.

Double Helix's ability to store pictures as data fields also extends its usefulness. As data fields you might have mug shots of personnel, parts diagrams, office location maps, architectural drawings of offices showing equipment, project flow charts, graphic borders for publications; you get the picture. Graphics may be used effectively as flags and alerts as well. It's hard to ignore a STOP.

It is even possible to create a status diagram consisting of several adjacent picture fields, with each field displaying conditions by its own complex calculation/criteria. Perhaps a graphic composite/status work assignment map would be a useful way to print out data.

Another interesting approach to the use of graphics in *Double Helix* is with *Fontographer*. This program allows you to create a PostScript "font" of small drawings, thus giving you drawings with a keystroke and "pictures" in an alphanumeric field.

Note that when printing these custom documents to a laser printer, the print file can be saved to disk and further formatted with a wide variety of fancy PostScript language commands like spiral and slanted titles. These files may immediately be sent by network/modem to a typeset level (1400 to 2500 dots per inch) printer for publication. So *Helix* could be used to autogenerate a publication using data entered and calculated from several databases or collections.

HARD KNOCKS OF REALITY

Let's take a hard look at the realities of creating a custom *Double Helix* application. What will you need to set up a custom application?

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- Applications detect mouse position and state
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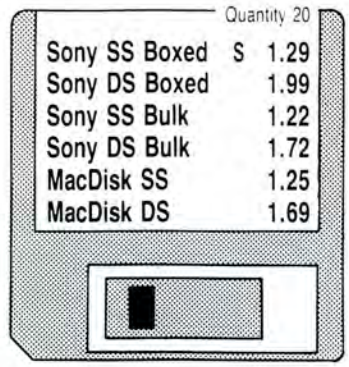
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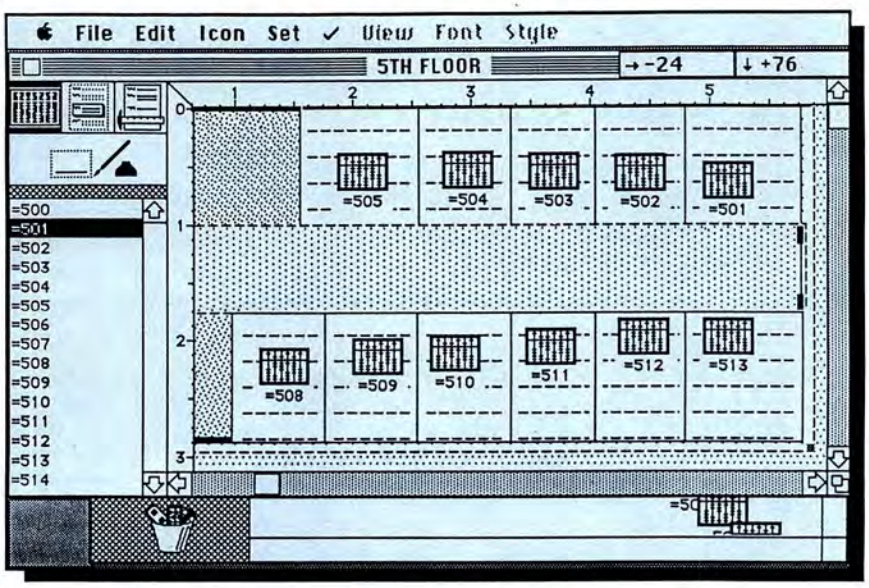
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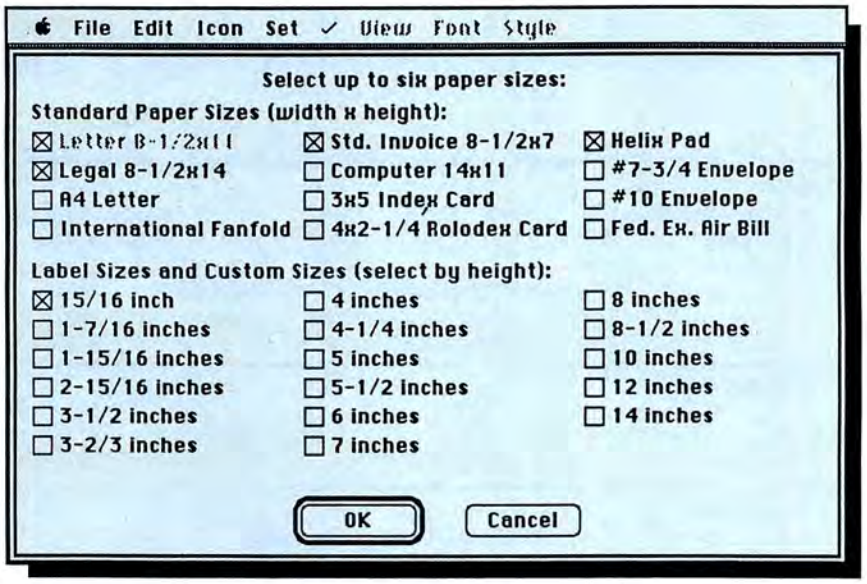
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AS THE HELIX TWISTS



The template window used to generate the out put shown in the previous figure.



A typical relation window form a *Double Helix* template.

The variables are hardware, software and template construction time. There is structural planning, template writing, and real life refinements/additions. Ideally you will work from an existing template and customize it for your specific business.

While *Double Helix* functions perfectly in a 512K/floppy disk environment, the fact is that once you have a working template, you will be continuously entering and creating data, necessitating a mass-storage device. Remember that *Double Helix* is a powerhouse and you will want to build additional relations, so planning for growth is very important. Hardware wise, the Mac Plus is a fine environment, but I use and recommend at least 2 megabytes of RAM for serious business use. The speed gains can be dramatic (up to 30 percent in the case of the Levco 2-meg board). Also, you want the System folder, *Double Helix,* and hopefully your entire data file held in memory for maximum speed (faster definitely equals better). The new 128K ROMs and 800K drives must be considered mandatory, not optional. I noticed an eightfold speed up in the time it takes to back up a *Double Helix* template over the 64K ROMs!

A useful system will include an SCSI 20-meg hard drive for day to day work and a 5- or 10-meg cartridge-type drive (or streaming tape unit) to back up data and serve as additional on-line storage space as needed. Dedicated printers for forms and labels are well worth the investment. A busy office will require them.

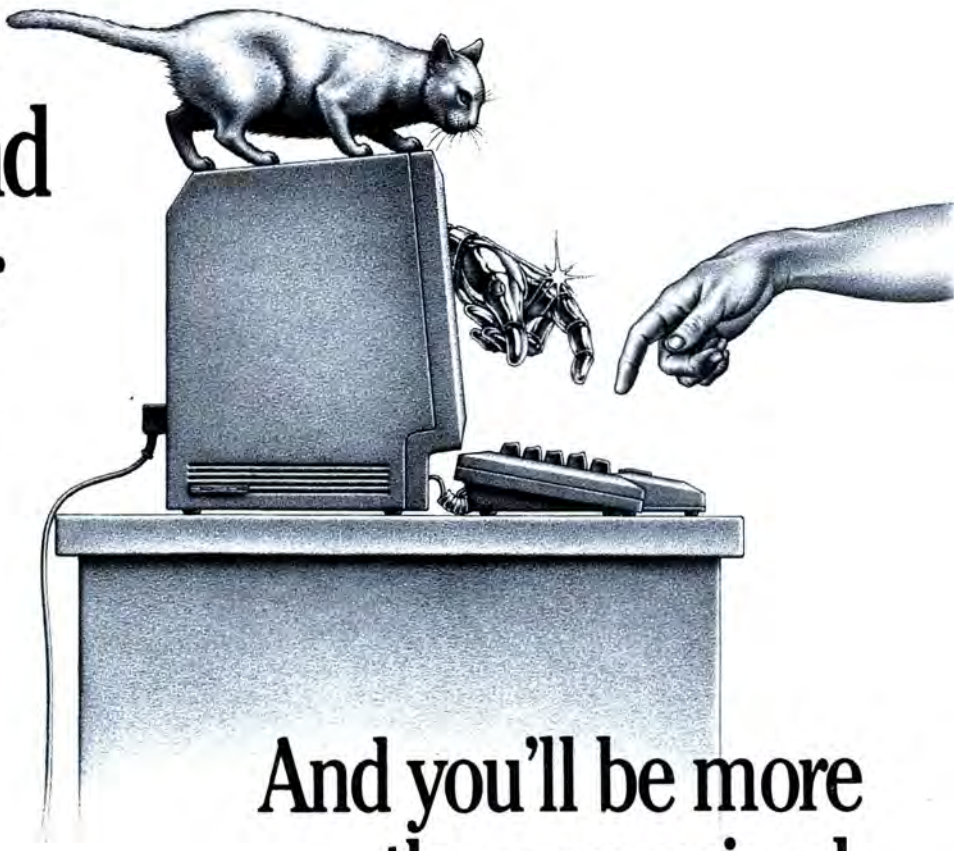
The only additional software really needed would be a macro program such as *Tempo.* Almost every command you do in a computer business environment is a repetitive task and that spells macros: macros to transfer a key field from one window to another, macros to print to a specific printer with a prompt to manually turn the printer switch on, macros to bring a hard disk volume online, macros to dump to a disk file with the date and time as the title, macros to load from a modemed file and then send computed table to printer, macros to load more macros....

FORMS TO FOLLOW FUNCTIONS

It's hard to talk about limitations because the system is so flexible. But it is certainly true that you are basically limited to a database style, and there are many features one could think of that are not implemented. A function can almost always be made to work, but sometimes not in the way you might like. For instance, making yes/no choices on a form might be done by typing Y followed by TAB, if the field is a flag format, or by typing any character in a text field and then looking to that field with an "If [field] is defined then true" abacus. A simple Mac "radio" click button would be faster, but the previous method does add qualitativeness over a basic y/n response. Similarly, you cannot double-click on data fields and have them "open" up, but you could pull down a custom menu item to display the same data (graphic or alphanumeric).

One thing *Double Helix* can't do is overlap label and data rectangles (it would be nice, but not having it is not a tragedy). Also, you cannot list

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AS THE HELIX TWISTS

TRICKS OF THE TRADE

•It's more efficient to create many separate relations and then subform the data to other places than to put different types of data in one relation. For instance, an invoice relation can have the product-/quantity information entered from an inventory relation and the ship label looked up from client relation.

•Carefully consider the scheme of how you will display information. Here's a case in point: You decide to keep track of inventory each morning by opening a status window, viewing the information and pressing ENTER. An InStock abacus looks up the most recent entered total, adds products purchased/produced since the last report and subtracts the product invoice quantities since the last report. This saves having to look through the entire invoice database each time you want to compute instock. But then, if you ever want to go back and change an invoice quantity (partial return or refund), inventory will not be automatically updated.

•An old Okidata 92 printer that feeds the forms from the bottom (with the printer sitting on a frame-type stand) accepts thick UPS labels and solves a common office automation task. Hint: Make sure the printer is ImageWriter-compatible and use the Lisa DIP switch setting when sending from a Mac. The Mac Plus changes the setting requirements, so you may have to fiddle around to get it to work. Even an old ImageWriter needs a different setting with the Plus.

•When setting up data entry screens, the first tab field should be the main key field. This simplifies COPY/GO to another WINDOW/PASTE key field routine. It is a good idea to place the fields that are the most likely to be overlooked right up near the top of the form to help ensure they are filled in.

•Create "smart labels." For instance, an abacus for a label field on an invoice could be [if Terms=COD display 'COD AMOUNT' else if Terms=prepaid display '—2% CASH DISCOUNT'] A corresponding abacus would similiarly calculate the appropriate numbers.

•Remember that an abacus will not calculate if the field has been entered (posted), that is, the field rectangle contains both an abacus icon and a field icon and the record has been ENTERED.

•If you want to put several different types of information into a key field, remember to put unique information first and less important modifiers last. This will allow you to use a Starts With tile for flag searches, which is must faster than a Contains. Let's take an example from an inventory relations point of view: Unique product information like first digit,type; second digit,size; third digit, style, followed by less important fourth digit, box color; fifth digit, price schedule; sixth digit, shipping method.

But what if you want to look at the total amount for all invoices with price schedule "D"? Well, you could put a separate price schedule field and post it or go ahead and do a Contains. Either way you'll want to create an index for the abacus to minimize lookup time. Even a client code (Inquired, Ordered, Dealer, Credit approved, etc.) needs to be thought out for maximum efficiency.

•Here is a very handy alert to keep from entering duplicate key fields in a clear form. [If 'Lookup Key for Key=Key' is defined then display "Existing Key Number!"] Naturally, this alert will be present whenever you are looking at an entered record and thus a reminder that you are not in a clear form.

fields that are merely calculated but not saved; you must use a field icon to display the data in a list. However, *Double Helix* will list calculated items in a subform on a per page basis and you may define a page as small as one inch. Another common missing feature is folders, but they will not happen anytime soon, and that lack can also be lived with — most users seem to find it just as easy to single click on a scroll bar than to find and double click on a folder. If you organize your icons in relation windows according to type the same way every time, it will make things easier to find: indexes above the icon they operate on, templates next to their respective selection windows, etc.

A major criticism that has always been leveled at the *Helix* product family is speed or lack thereof. And no question about it, *Helix* was, and can still be considered, slow. Is *Double Helix* slow? While things can get bogged down in *Helix* version 2.0, many functions are speeded up in *Double Helix* . However, the dramatic improvements in speed are due to the use of the new ROMs. No more waiting around for icons to move. Although performance does depend on template complexity much depends on an efficient scheme for the abacii. So how fast is fast? Well, I'll say that in the recommended system and with an efficient template, *Double Helix* is a serious contender for real-time business situations.

It would be fair to say that *Double Helix* version 1 is intended as a developer's tool to create vertical market applications and as such is sometimes difficult. The process of defining subform queries, indexes, and match criteria has a tediously annoying way of displaying "marching ants" through the choices until the window has valid criteria. The DUMP and LOAD options are comprehensive but it is not obvious what they all are for. The DIF and SYLK file formats were not implemented in this first release of *Double Helix,* but they do show up as grayed out options, indicating future availability.

Double Helix is as much an environment as a program. The publisher, Odesta, has made a clear commitment to continue the evolution of the product and this means that applications written for *Double Helix* are fully ready to be enhanced with new levels of functionality.

The future holds *Multiuser Helix,* which will run any *Double Helix* application, allowing full interactive use right down to the field level. Your small business application can grow to become an entire system accessible to all the departments of a growing company via an Appletalk local area network. And then there's *Remote Helix.* It's an extension of *Multiuser Helix* that allows you to directly access your entire *Helix* collection over a modem line. I'd say that it's a pretty attractive upward path to look forward to.

David de la Vega is a San Francisco area Mac consultant/writer.



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Pascal and Modula-2 source code are nearly identical. Modula-2 should be thought of as an enhanced superset of Pascal. Professor Niklaus Wirth (the creator of Pascal) designed Modula-2 to replace Pascal.

Added features of Modula-2 not found in Pascal

- CASE has an ELSE and may contain subranges
- Programs may be broken up into Modules for separate compilation
- Machine level interface
 - Bit-wise operators
 - Direct port and Memory access
 - Absolute addressing
 - Interrupt structure
- Dynamic strings that may be any size
- Multi-tasking is supported
- Procedure variables
- Module version control
- Programmer definable scope of objects
- Open array parameters (VAR r: ARRAY OF REALS;)
- Elegant type transfer functions

Mac Plus Benchmarks (secs)	Compile	Link	Execute	Optomized Size
Sieve of Eratosthenes:	7.3	5.8	5.1	1257 bytes
Float	8.0	8.6	10.3	3944 bytes
Calc	6.8	5.7	4.3	1736 bytes
Null program	5.7	5.6	—	1100 bytes

```
MODULE  Sieve;
CONST   Size = 8190;
TYPE    FlagRange = [0..Size];
        FlagSet = SET OF FlagRange;
VAR     Flags FlagSet;
        i:    FlagRange;
        Prime, k, Count, Iter: CARDINAL;
BEGIN   (*$S-,$R-,$A+ *)
  FOR Iter:= 1 TO 10 DO
    Count:= 0;
    Flags:= FlagSet(); (* empty set *)
    FOR i:= 0 TO Size DO
      IF (i IN Flags) THEN
        Prime:= (i * 2) + 3; k:= i + Prime;
        WHILE k <= Size DO
          INCL (Flags, k);
          k:= k + Prime;
        END;
        Count:= Count + 1;
      END;
    END;
  END;
END Sieve.
```

```
MODULE Float;
FROM MathLib0 IMPORT sin, ln, exp,
                     sqrt, arctan;
VAR x,y: REAL; i: CARDINAL;
BEGIN (*$T-,$A-,$S-*)
  x:= 1.0;
  FOR i:= 1 TO 1000 DO
    y:= sin (x); y:= ln (x); y:= exp (x);
    y:= sqrt (x); y:= arctan (x);
    x:= x + 0.01;
  END;
END float.
```

```
MODULE calc;
VAR a,b,c: REAL; n, i: CARDINAL;
BEGIN (*$T-,$A-,$S-*)
  n:= 5000;
  a:= 2.71828; b:= 3.14159; c:= 1.0;
  FOR i:= 1 TO n DO
    c:= c*a; c:= c*b; c:= c/a; c:= c/b;
  END;
END calc.
```

Product History

The TDI Modula-2 compiler has been running on the Pinnacle supermicro (Aug. '84), Atari ST (Aug. '85), Amiga (Jan. '86) and will soon appear on UNIX in the 4th Qtr. '86.

Regular Version $89.95 Developer's Version $149.95 Commercial Version $299.95
The regular version contains all the features listed above. The developer's version contains additional Mac modules, macros and demonstration programs – a symbol file decoder – link and load file disassemblers – a source file cross referencer – the kermit file transfer utility – a Modula-2 CLI. The commercial version contains all of the Mac module source files.

Other Modula-2 Products

Kermit	– Contains full source plus $15 connect time to Compuserve.	$29.95
Examples	– Many of programs from Inside Macintosh translated into Modula-2.	$24.95
GRID	– Sophisticated multi-key file access method with over 30 procedures to access variable length records.	$49.95

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WH

The Renaissance Man

TIMOTHY WHITE

AT'S HOT,

of the Mac community brings back a great tradition

YOU CAN NOT SEE THEM, BUT they are there: lines. Connections.

They stream from your Macintosh (though some exist as ghosts inside); call them connections or pointers or references or links.

There are stories, rumors, even facts. But mostly opinions. The truth as opinion. Truths that before were unsaid; and facts that shuffled and lurked: despicable things that fled from print. Factoids.

The great. The good. The bad. The hot. The not. The cool. The cold and wicked. The unsung.

And the overblown.

But there are pins for empty balloons. And the latest in harp technology for songs that need to be sung.

So let's smite. But also sing. And sometimes mourn. (And, in the worst tradition of journalism, let's second-guess.)

(MUCH LATER...)

Where were we? The thread is gone. There was a crash. A "Serious System Error." Video fireworks. It might have been an address error, or an illegal instruction. It may have emanated from the application, or a misbehaved desk accessory, or an electronic hiccup deep inside the ROM.

Let's mourn. Let's mourn this: that Bruce Horn didn't get his way.

Bruce, with Steve Capps, wrote the *Finder,* and laid much of Macintosh's conceptual foundation. Bruce conceived "resources." Bruce is smarter than you or I will ever be.

And he wanted Error Management. Error Management is hot. Bombs are not. But there was a computer to ship and money to make.

More things to mourn: *InfoWorld* without John Dvorak, *Macazine* without Charlie Jackson, and Computerdom without Andrew Fluegelman.

The nots. They are more:

WHAT'S NOT

by Doug Clapp

WHAT'S HOT, WHAT'S NOT

A man stands in the aisle at a computer show, handing out leaflets. Most passersby take a leaflet. It's easy: you reach your hand out and take one and stuff it into your bag.

Two young women in crisply tailored suits walk by. The man smiles and reaches out to hand them a leaflet.

The women, in unison, crinkle their noses. The man smiles and says "Hey, they're free!" The women sneer and walk past, toward the Apple booth where their shifts are about to begin.

Apple snobs. Apple snobs in sharply creased little tan suits.

Here's an idea. Let's make'em all start work at Apple this way: in a hot garage, with a soldering gun. Here're the chips, there's the board, get to work.

You can be cool later. First, be a "little guy."

And why not a pin for Lotus? A phone coversation — true, trust me — before *Jazz* was released:

Caller: "Isn't $595 kind of...ah ...expensive?"

Lotus PR person: "Actually, we have done surveys that showed that people would gladly pay much more than that, but we decided to price it at only $595."

To Lotus Development: A "Cheesy at Any Price" pin. Place it on their three-piece suits.

There's the agony of psoriasis and there's the odor of elitism. What's uncool?

Try this:

An ad in the June issue of *Personal Publishing* magazine. The headline copy that kicks off the full page ad is this: "Some bad news for the little Mac."

The company is hawking their third-rate word processor, *Spellbinder*. Only now it's retitled *Spellbinder Desktop Publisher*.

Morals: Saying it's so don't make it true. Companies make cheap shots. If it don't quack, it ain't a duck.

Let's face it: Macintosh is to the IBM PC as the IBM PC is to writing on clay. In cuneiform with a stylus. Except the IBM isn't as fast.

Then there are merely bad products. Not interesting, not so terrible you can make fun of them. Just bad. (Here's where the author thinks: "Boy, wish I had another 5,000 words!").

Have you seen "Aliens" yet? Remember the part where the colonists get glued into a wall, to incubate and hatch alien monsters?

I've got a Mirror Technology internal 20-megabyte hard disk. My Macintosh, I'm sure, feels like those colonists: *ARGH! GET THIS THING OUTA ME! AAAIIIEEEE!!!*

(Why do I get the feeling the Mirror will want their drive back after they read that paragraph?)

But enough, there's a parade. Good things. And not always the "latest and the greatest," or the product with the largest, most colorful ads.

Lode Runner — a fine maze game. Fun, and don't worry about mastering the many levels in a month, or a year. *Pinball Construction Set* — amazingly easy; kids love it, and programmers can take an "object lesson" from Bill Budge's invention and taste.

And *Championship Boxing* gets much play from neighborhood 8-year-olds. If you hate boxing, you're gonna really hate *Championship Boxing*. It's great. (And if you're a student of the Macintosh User Interface you'll find much complexity, well represented. Food for thought.)

And if playing *Wizardry* feels more like bookkeeping then gameplaying, try *Dungeon of Doom,* a massive shareware adventure game. Monsters and treasures and sound





and fine graphics. And it's free, if you're a jerk, or $25, if you're not.

Don't be a jerk.

Not that the "latest and greatest" aren't sometimes great. *Servant* — Andy Hertzfeld's latest gift to civilization — will be better than you could hope. I wonder if Andy's old enough to run for President? I wonder if he's tall enough to run for President? (I know I keep bringing up "Hertzfeld for President," but it's a good idea. Maybe we can start a draft. Hope he's a Democrat.)

Then there's *LightspeedC,* a C compiler from the folks that did Macintosh Pascal. Mac developers, fickle creatures all, are flocking to *LightspeedC.*

The phones at Consulair and Aztec are suddenly dead. Capitalism lives.

My recommendation: buy *LightspeedC* for the "About..." box. The greatest "About..." box you've ever seen. Three-D, stars whizzing by....

If you like the "About..." box, get *Orion,* a public domain simulation. *Orion* lets you whiz through space, to distant stars. It's just neat.

The parade marches on.

U.S. Robotics sent me a 2400-baud modem. (Which is like giving an inveterate gambler a "Win at the Slot Machines!" book. "No, honey, we won't be buying any groceries this month. The phone bill's sorta, ah, stiff.")

And, you know: it's a modem. Lots of holes in the back to plug things into. And it needs a cable — it doesn't come with a cable.

The manual assumes you have an IBM. IBM examples. Do this on your IBM. Always encouraging.

So I look in the "cable closet" (we all have one, right?) and pull out an old ImageWriter cable. And plug it in. What the hey. And plug in a couple of phone cords. And plug the power thing into the wall.

I try not to look at the huge DIP switch lurking under the modem. I do notice, though, that the front is LED strewn, with these letters underneath: "HS AA CD OH RD SD TR MR AL."

I'd hoped for icons.

Anyway, I turn everything on, load a communications program, grit my teeth, choose "Dial," and....

It worked! I didn't need to change a single DIP switch!

Boy, that's odd.

When I tell the story later, all my friends say "Oh yeah: U.S. Robotics. That's a good modem." As if I'd just spent the last 2 years in the Himalayas.

And I found out that the author of *DietMac* is the same guy who programmed *MacExpress* for Alsoft. I love *DietMac;* I have no use for it, but I love it. It's a beautifully done program.

Good books? Try *Programmers at Work,* published by Microsoft Press. A wonderful book; straight question-and-answer interviews with programmers: Bill Gates, Bob Carr, and somebody named Andy Hertzfeld.

The Gates interview, in particular, is good reading. It's nice to know that Microsoft's CEO can get down and code — count bytes and talk in hex — when he wants to. Gates' recounting of how Microsoft's first BASIC was squeezed into only 4K reminded me of another Gates comment. Something about the 128K Macintosh being a good thing, because it disciplined programmers into writing tight code. What a refreshing point of view! Viewing 128K as a worthwhile challenge, instead of snobby "128K Mac-bashing."

Now that we're all overpowered, it's easy to forget that *Multiplan* is a thing of beauty in 128K.

I don't begrudge Gates his 300-odd million dollars. I only wish that Microsoft would publicize their programmers, so other companies could steal them away with huge salaries.

It'd be good for "The industry."

The great. The good. The bad. The hot. The not. The cool. The cold and wicked. The unsung. The end.

Until next time.

TIMOTHY WHITE

Just the

SOFTWARE

Affinity Microsystems
Tempo *(power user's macro utility)* $59.
Altsys
Fontastic *(create your own fonts)* 27.
Ann Arbor
FullPaint *(open four documents at once)* . . 55.
Arrays
Home Accountant *(req. external drive)* . . . 52.
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Teach Yourself Multiplan 39.
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Batteries Included
The Mac BatteryPak *(8 desk accessories)* 27.
Borland International
Sidekick w/Phonelink. 59.
BPI Systems
General Accounting *(full-featured)* 239.
BrainPower
Think Fast *(improves recall)* 23.
Chipwits *(educational, robot simulation)* . . . 26.
StatView *(statistics package)* 52.
Designscope *(electronic circuit design)* . . 129.
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CAMDE
Nutricalc *(diet & nutrition analysis)* 49.
Casady Company
Fluent Fonts *(two-disk set)* 29.
Fluent Laser Fonts *each* 49.
Central Point Software
Copy II Mac *(includes MacTools)* 20.
Challenger Software
Mac3D *(3D graphics, CAD features)* 115.
Chang Labs
Rags to Riches Ledger 105.
Rags to Riches Receivables *(req. 512k)* . . 105.
Rags to Riches Payables *(req. 512k)* 105.
Rags to Riches Three Pak 259.
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Professional Billing 229.
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TopDesk *(7 new desk accessories)* 35.
Creighton Development
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Cricket Software
Statworks *(statistical package)* 79.
Cricket Graph *(multiple windows)* 129.
DataViz
MacLink *(transfer Mac/IBM data)* 89.
Desktop Graphics
DrawArt *(MacDraw artwork, req. 512k)* . . . 29.
DrawForms *(requires MacDraw)* 30.
MacForms *(requires MacPaint)* 42.
Digital, etc.
Turbo Maccountant *(w/video tape)* 269.
Dow Jones
Straight Talk *(access News/Retrieval)* 59.
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Dreams of the Phoenix
Day Keeper Calendar 27.
Phoenix 3D *(3D graphics)* 27.
Quick & Dirty Utilities Vol. 1 27.
Quick & Dirty Utilities Vol. 2 27.
Twelve-C Financial Desk Accessory 27.
Electronic Arts
Financial Cookbook *(financial formulas)* . . . 32.
Deluxe Music Construction Set 32.
Enabling Technologies
Easy 3D *(create solid 3D objects)* call
Enterset
Quickpaint *(find MacPaint files fast)* 27.
Quickset *(icon-driven desk accessories)* . . 27.
Quickword *(word processing tool)* 32.
MacGAS *(spell checker, 512k, ext. drive)* . . 55.
1st Byte
Speller Bee *(spelling-learning tool)* 39.
KidTalk *(reading-writing instruction)* 39.
Smoothtalker *(speech synthesis)* 49.
Forethought
Factfinder *(free-form info organizer)* 79.
FileMaker *(custom forms & reports)* 99.
FileMaker Plus *(updated version)* 179.
Fortnum/Southern
MacInooga Choo-Choo *(train set, 512k)* . . 21.
FWB Software
Hard Disk Util *(backup utility)* 57.
Great Wave Software
KidsTime *(educational, ages 3-8)* 29.
ConcertWare+ *(music composition)* 39.
Classical Selections 12.
Early Music 12.
Hayden Software
I Know It's Here Somewhere *(filer)* 20.
Hayden:Speller *(for Word & MacWrite)* 27.
M.U.D. *(MacroMind Utility Disk)* 29.
MusicWorks *(songs for your Mac)* 46.
DaVinci Building Blocks *(req. MacPaint)* . . 46.
Home Design *(home planning tool)* 49.
Score Improvement System for the SAT . . . 58.
VideoWorks & MusicWorks Bundle 58.
DaVinci Commercial Interiors 114.
Ideaform
MacLabeler *(print disk labels)* 29.
Infosphere
MacServe *(network software)* call
Innovative Data Design
Paste-Ease *(requires MacPaint)* 35.
MacDraft *(new updated version, 512k)* . . 139.
Kensington
Graphic Accents *(req. MacPaint)* 29.
Type Fonts for Text *(16 new fonts)* 29.
Type Fonts for Headlines *(req. 512k)* 42.
Layered
Notes...For Excel *(tips & templates)* 42.
Notes...For Jazz *(on-line help DA)* 42.
Front Desk *(scheduling & organizer)* 77.
Legisoft/Nolo Press
WillWriter 2.0 *(prepare your own will)* 27.
Linguist's Software
Tech *(1000 different symbols)* 59.
FOREIGN LANGUAGE FONTS
MacCyrillic 39.
SuperFrench/German/Spanish 39.
MacArabic 59.
MacKana/Basic Kanji 59.
MacSemitic/Coptic/Devanagari 59.
MacKorean 59.
MacGreek 59.
MacHebrew 59.
MacHieroglyphics 59.
LaserGreek 79.
MacGreek/Hebrew/Phonetics 89.
Living Videotext
ThinkTank 512k *(outline processor)* 99.
More *(outlines, windows, & tree charts)* . . 195.
Magnum
McPic - Volume 1 *(req. MacPaint)* 28.
McPic - Volume 2 *(req. MacPaint)* $28.
The Slide Show Magician 1.3 34.
Manhattan Graphics
Ready Set Go *(page processor, 512k)* 99.
Microsoft
Flight Simulator *(the Mac takes flight)* 32.
Learning Multiplan and Chart *(2 disks)* . . . 39.
Chart 1.0 *(42 chart styles)* 72.
Logo 1.0 *(windows, Turtle graphics)* 75.
Basic 2.1 *(Basic language interpreter)* 89.
Multiplan 1.1 *(63 columns by 255 rows)* . . 105.
File 1.02 *(flexible data manager)* 111.
Word 1.05 *(word processor, mail merge)* 111.
Fortran 2.1 *(compiler)* 169.
Excel 1.0 *(power spreadsheet)* 225.
Miles Computing
Mac the Ripper *(2 disks, req. MacPaint)* . . . 27.
Mindscape
The Luscher Profile *(personality profile)* . . . 24.
The Perfect Score: SAT 47.
ComicWorks *(create your own comics)* . . . 49.
Monogram
Forecast *(tax planning)* 41.
Dollars & Sense *(home, small business)* . . . 81.
Nevins Microsystems
Turbocharger *(disk cache, req. 512k)* 39.
New Canaan MicroCode
Mac Disk Catalog II *(requires 512k)* 32.
Odesta
Helix *(req. 512k, external drive)* 125.
Double Helix *(relational, custom menus)* 279.
Palantir
MacType *(supports Dvorak keyboard)* 26.
MathFlash *(math flash card drills)* 26.
WordPlay *(crossword puzzles)* 26.
Inventory Control *(cost, sales & GP)* 69.
inTouch *(communication to emulation)* 79.
PBI Software
Icon Switcher *(customized icons)* 14.
Icon Fun & Games Library *(req. MacPaint)* 14.
Icon Business Library *(req. MacPaint)* 14.
HFS Locater *(DA organizer for HFS)* 27.
Hard Disk Backup *(supports MFS, HFS)* . . 29.
Peachtree
Back to Basics General Ledger 89.
Back to Basics Accounts Payable 89.
Back to Basics Accounts Receivable 89.
Polarware
Graphics Magician *(animation)* 39.
ProVUE Development
OverVUE 2.0 *(power-packed database)* 149.
QED Information Sciences
Typing Made Easy *(instruction)* 36.
Rubicon Publishing
Silver Palate Collection *(NY's finest!)* 29.
Dinner At Eight *(recipes to wines)* 32.
Dinner At Eight-Silver Palate Bundle 54.
Satori
BulkMailer *(mailing lists)* 75.
Sierra On-Line
MacOneWrite *(cash disbursements)* 137.
MacOneWrite *(accounts receivable)* 137.
MacOneWrite *(general ledger)* 137.
Silicon Beach Software
Accessory Pak 1 *(useful utilities)* 21.
Silicon Press *(printer utility, 512k)* 42.
Simon & Schuster
The Mac Art Department *(req. MacPaint)* . . 24.
Paper Airplane Construction Kit. 24.
Typing Tutor III *(learn to type!)* 35.

We'd like to think you're even stranger.



A walk on the weird side.
Back in prehistoric Mac times (early 1985) we held a contest to unearth strange-but-true Mac stories. Winners received $500 worth of Mac add-ons and software, and became stars of a series of MacConnection advertisements.

The response was overwhelming. Our customers were using their Macs to run detective agencies, back up heavy metal bands, even to help explore the frozen tundra for remains of old expeditions.

The odd get even.
Well, it's time to find out what new heights of eccentricity you've achieved. Has your Mac saved your life during a terrorist attack? Have you used a Mac to predict how many times per episode of Miami Vice Don Johnson will say the word "pal"? Have you used a Mac to create a mutant life form that will save the planet from radioactive fallout?

We're looking for adventure, romance, mystery, the occult. Mac applications that are so fascinating, far-fetched, or far-out that your fellow Mac fanatics will froth at the follicles, and feel all fuzzy around their foreheads. Oh yes. We're talking serious strangeness here. Send along any relevant snapshots, drawings, and/or newspaper clippings with your entry. Don't forget to enclose your name, address and phone number. And keep a copy for yourself—everything you send us becomes the property of MacConnection.

What do I win?
$500 worth of free add-ons and software and instant fame! All entries must be received by December 31, 1986. The totally subjective decision of our judges is final. Good luck! And remember, whether you win or not, we at MacConnection are always here to fulfill your wildest Mac dreams.

MacConnection™

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Facts, Mac. Stran

SoftStyle
Colormate Art *(Colormate images)* $25.
Colormate *(color printing utility)* 49.
Epstart *(Epson printer driver)* 27.
Jetstart *(Hewlett-Packard Thinkjet)* 27.
Laserstart *(Hewlett-Packard Laserjet)* 59.
Decision Map *(make better decisions!)* . . . 75.
Software Discoveries
Record Holder *(flexible data manager)* . . . 42.
Springboard
Art a la Mac Vol. 1-People and Places 23.
Art a la Mac Vol. 2-Variety Pack 23.
Easy as ABC *(ages 3-6, letters)* 29.
Early Games *(ages 2-6, shapes, counting)* 29.
State of the Art
Electric Checkbook *(prints checks)* 39.
Symmetry
Acta *(outline/writing desk accessory)* 39.
PictureBase *(clip art manager, 512k)* 45.
T/Maker
ClickArt Personal Graphics *(req. MacPaint)* 29.
ClickArt Publications *(req. MacPaint)* 29.
ClickArt Letters *(req. MacPaint)* 29.
ClickArt Effects *(req. MacPaint)* 29.
ClickOn Worksheet *(spreadsheet DA)* 46.
Target Software
MacLightning *(interactive spell checker)* . . 53.
Telos Software
Filevision *(graphic filing program)* 99.
Business Filevision *(512k, external drive)* 199.
Think Educational
MacEdge II *(math & reading)* 28.
Mind Over Mac 29.
TML Systems
TML Source Code Library 59.
TML Pascal *(compiler, req. 512k)* 69.
TrueBasic
True BASIC *(fast, flexible & portable)* 89.
Algebra Utility 36.
Calculus Utility 36.
3D Graphics Utility 36.
Videx
MacCalendar *(includes reminder system)* 52.

GAMES

Activision
Championship Star League Baseball 22.
Hacker *(you're on your own!)* 27.
Mind Shadow *(Who am I?)* 27.
Borrowed Time *(murder mystery)* 27.
Shanghai *(Mah Jongg strategy)* 27.
Alter Ego *(male or female version)* 36.
Ann Arbor Softworks
Grid Wars *(3D graphic arcade)* 22.
Artworx
Bridge 4.0 *(sharpen your skills)* 21.

MacConnection Special of the Month
through October 31, 1986

MIRROR TECHNOLOGIES
MagNet 20X External Hard Drive
This reliable multiuser 20 Meg unit offers both speed and portability for your Mac Plus. MacServe (a $250 value) is bundled free with the MagNet 20X, allowing other Macs to share data and peripherals.

- Plugs into SCSI port
- Password protection for files
- Print spooling & file backup
- FastPort option provides SCSI interface for 512k owners

MagNet 20X $925.
MagNet 20X/FastPort Bundle 1049.

Bantam Electronics
Sherlock Holmes: Another Bow 27.
Blue Chip
Millionaire *(stock market)* 35.
Tycoon *(commodities)* 35.
Baron *(real estate)* 35.
Squire *(personal finance, req. 512k)* 35.
Broderbund Software
Lode Runner *(over 150 levels)* 24.
Ancient Art of War *(military strategy)* 27.
CBS
Murder by the Dozen *(twelve mysteries)* . . 25.
Electronic Arts
Skyfox *(3D graphics)* 27.
One on One/Dr J vs Larry Bird *(req. 512k)* 27.
Pinball Construction Set 27.
Epyx
Rogue *(strategy dungeon classic!)* 24.
Temple of Apshai Trilogy *(4 levels)* 24.
Winter Games *(Olympic events)* 24.
Hayden Software
Sargon III *(9 levels of chess)* 29.
Infinity Software
Grand Slam *(tennis, req. 512k)* 28.
Infocom
Seastalker *(junior)* 23.
Ballyhoo, Cutthroat, Hitchhiker's Guide, Planetfall, Wishbringer, Enchanter, Zork I, The Witness *(standard)* *each* 23.
Zork II, Zork III, Sorcerer, Infidel, Suspect, Mind Forever Voyaging *(advanced)* *each* 26.
Deadline, Spellbreaker, Suspended, Starcross *(expert)* *each* 29.
Invisiclues *(hint booklets)* *each* 6.

Miles Computing
Fusillade *(arcade-maze)* $21.
MacAttack *(3D tank simulation)* 27.
Harrier Strike Mission *(3D flight simulation)* 27.
MacWars *(3D space simulation)* 27.
Mindscape
Rambo: First Blood Part II 24.
James Bond 007: "A View to a Kill" 24.
Stephen King's "The Mist" 24.
Racter *(converse with your Mac!)* 27.
Balance of Power *(world politics)* 30.
Brataccus *(great graphics, req. 512k)* 30.
Uninvited *(mystery adventure)* 30.
Deja Vu *(murder mystery)* 33.
Origin Systems
Exodus: Ultima III *(fantasy adventure)* 38.
PBI Software
Strategic Conquest *(war strategy)* 29.
Fokker TriPlane Flight Simulator 35.
Polarware
Transylvania *(rescue Princess Sabrina)* . . . 15.
Crimson Crown *(sequel to above)* 15.
Sword of Kadash *(fantasy adventure)* 15.
The Quest *(beware of the dragon!)* 15.
Xyphus *(role playing adventure)* 15.
Practical Computer Applications
MacGolf *(Tee off! Requires 512k.)* 36.
Psion
Psion Chess *(3D and multi-lingual)* 31.
Sierra On-Line
Frogger *(classic video game)* 24.
Championship Boxing *(knock 'em out!)* . . . 24.
Ultima II *(role playing adventure)* 35.
Silicon Beach Software
Airborne! *(digitized-sound war game)* 20.
Enchanted Scepters *(sound & graphics)* . . 21.
Simon & Schuster
Star Trek—The Kobayashi Adventure 24.
Sir-Tech
Mac Wizardry *(high-rated adventure)* 36.
Spectrum Holobyte
GATO *(submarine simulation)* 26.
Orbiter *(requires 512k)* 27.
Tellstar North Level I *(req. 512k)* 27.
Unicorn
Futuria *(sci-fi adventure)* 24.
Animal Kingdom *(ages 6-12)* 27.
Decimal Dungeon *(math, ages 9 and up)* 27.
Fraction Action *(arcade style math game)* 27.
Mac Robots *(pre-school program)* 27.
Read-A-Rama *(reading, ages 5-8)* 32.
Videx
FunPak *(Solitaire and more)* 23.
MacCheckers/Reversi 28.
MacGammon/Cribbage 28.
MacVegas *(7 casino games)* 34.

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ıge but true.

HARDWARE

Assimilation
MIDI Conductor $69.
Mac•Port•Adaptor 75.
Numeric•Turbo 129.
Compucable
Mac to Hayes Smartmodem cable 16.
Mac to Imagewriter cable 16.
Mac Plus to Hayes Smartmodem cable ... 19.
Mac Plus to Imagewriter II cable 21.
Cuesta Systems
Datasaver AC Power Backup *(90 watts)* .. call
Curtis Manufacturing
Diamond *(6 outlets)* 29.
Emerald *(6 outlets; 6 ft cord)* 36.
Sapphire *(3 outlets; EMI/RFI filtered)* 47.
Ruby *(6 outlets; EMI/RFI filtered; 6 ft cord)* 55.
Epson
FX-85 printer call
FX-286 printer call
LQ-1000 printer *(letter quality)* call
Ergotron
MacTilt *(includes external drive bracket)* .. 75.
MacBuffer 256k 259.
MacBuffer 512k 389.
MacBuffer 1 Megabyte 569.
Hayes
Smartcom II *(communications software)* .. 89.
Smartmodem 1200 call
Smartmodem 2400 call
Smartmodem Package *(includes modem, Smartcom II and cable)* call
Transet 1000 call
IOMEGA
Bernoulli Box *(dual 10-MB w/SCSI)* 1995.
Bernoulli Box *(dual 10-MB storage)* 2195.
10 Meg cartridge 51.
Kensington
External Disk Drive Cover 8.
Mouseway *(mouse tracking pad)* 8.
Mouse Pocket *(for your idle mouse)* 8.
Mac (Plus) Dust Cover 9.
Imagewriter (II) Dust Cover 9.
Mouse Cleaning Kit w/Mouse Pocket 16.
Universal Printer Stand 17.
Disk Case *(holds 36 Mac disks)* 19.
Disk Drive Cleaning Kit 19.
Tilt/Swivel 22.
Polarizing Filter 31.
Surge Suppressor 35.
Starter Pack *(includes Tilt/Swivel)* 53.
A-B Box *(specify Mac or Mac Plus)* 62.
Control Center 62.
System Saver Mac *(complete with fan)* ... 65.
Koala Technologies
KAT Graphics Tablet 139.
MacVision *(digitizer)* 175.
Kraft
QuickStick *(Mac joystick)* 45.
Micah
MicahDrive AT *(20 Meg internal drive)* .. 1195.
Mirror Technologies
FastPort *("SCSI" for your 512k Mac)* .. special
MagNet 20x External Drive w/cable ... special
N² Products
Mac-Modem cable *(6 feet)* 19.
Mac-Transet 1000 cable *(9 feet)* 19.
Mac (Plus)-Printer cable *(6 feet)* 19.
Mac Plus Adapter cable 19.
Mac Plus-SCSI cable 24.
Paradise Systems
Mac 10 *(10 megabyte hard disk)* call
Mac 20 *(20 megabyte hard disk)* call
PBI Software
Switch Box *(connect two peripherals)* 36.
Personal Computer Peripherals
MacBottom 20 Hard Disk Drive 949.
PKI
McD 800k External Drive 239.
Summagraphics
MacTablet 6" x 9" *(stylus driven)* 265.
MacTablet 12" x 12" *(sketching)* 369.
Systems Control
MacGard *(surge protection)* 55.
Thunderware
Thunderscan *(high-resolution digitizer)* .. 175.
Mac Plus Power Accessory 29.
Thunderscan/PA Bundle w/cables 229.
Western Automation
DASCH RAMdisk 500k 299.
DASCH RAMdisk 1000k 359.
DASCH RAMdisk 2000k 435.

DISKS

Single-sided Diskettes

BASF 3½" Disks *(box of 5)* 9.
Memorex 3½" Disks *(box of 10)* 15.
Sony 3½" Disks *(box of 10)* 17.
Verbatim 3½" Disks *(box of 10)* 17.
MAXELL 3½" Disks *(box of 10)* 17.
Fuji 3½" Disks *(box of 10)* 17.
3M 3½" Disks *(box of 10)* 19.

Double-sided Diskettes

BASF 3½" Disks *(box of 5)* 14.
Fuji 3½" Double-sided Disks *(10)* 26.
Sony 3½" Double-sided Disks *(10)* 26.
Verbatim 3½" Double-sided Disks *(10)* ... 26.
MAXELL 3½" Double-sided Disks *(10)* ... 26.
3M 3½" Double-sided Disks *(10)* 27.

INFORMATION SERVICES

Compuserve
Compuserve Information Service 27.
Dow Jones
Dow Jones News/Retrieval Membership Kit 21.
Source Telecomputing
The Source *(subscription & manual)* 30.

ACCESSORIES

Automation Facilities
Floppiclene Drive Care Kit 15.
MacPak Complete Care System 29.
Clean Image Ribbon Co.
Clean Image Kit *(cleans printhead)* 12.
Computer Coverup
External Disk Drive Cover 4.
Imagewriter (II) Cover 8.
Mac (Plus) & Keyboard *(two covers)* 10.
Diversions
Underware Ribbon *(iron-on black transfer)* 9.
Colorpens *(add color to transfers)* 10.
ColorPack *(includes Colorpens)* 19.
Environmental Software Company
The Clutch *(holds 8 disks)* 9.
MACATTIRE (Rip-stop nylon covers)
External Drive Cover *(400k or 800k)* 7.
Numeric Keypad Cover $7.
Numeric Turbo Cover 8.
Imagewriter (II) Cover 11.
Wide Imagewriter Cover 13.
Mac (Plus) & Keyboard Cover 15.
Laserwriter Cover 17.
Mac (Plus) & HD20 & Keyboard Cover ... 18.
I/O Design
Imageware *(Imagewriter, or VCR case)* ... 39.
Imageware II *(Imagewriter II case)* 49.
Imageware wide *(for 132 col. Imagewriter)* 49.
Macinware Plus *(Mac Plus carrying case)* 69.
Innovative Concepts
Flip & File Micro *(holds 25 disks)* 9.
Flip & File *(holds 40 disks)* 18.
Innovative Technologies
The Pocket Pak *(holds 6 disks)* 9.
The Easel *(holds 20 disks)* 12.
The Disk Directory *(holds 32 disks)* 18.
Kalmar Designs
Teakwood Roll-top Case *(holds 45 disks)* .. 14.
Teakwood Roll-top Case *(holds 90 disks)* .. 21.
Teakwood Printer Stand 24" 29.
Magnum
Mouse Mover *(let your mouse ride!)* 14.
Moustrak
Moustrak Pad *(standard 7" x 9")* 8.
Moustrak Pad *(large 9" x 11")* 9.
Ribbons Unlimited
Imagewriter Color Ribbons 5.
Imagewriter Ribbons Six Pack 25.
Imagewriter Rainbow Six Pack 25.
Smith & Bellows
Mahogany Disk Case *(holds 90 disks)* 28.

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CHECK IT OUT

Nine spelling checkers reveal their innermost secrets.

BY F. MICHAEL BAYLES, STEVE PHILLIPS (Editors-in-Chief) AND MELANIE BARNES (Managing Editor) OF THE MACINTOSH JOURNAL



YOU SAY YOU DON'T SPELL REAL well? Or your fingers don't type exactly what your brain wants them to? And dictionaries are big, heavy and slow to use. Anyway, how do you find the word if you don't know how to spell it? The answer is a spelling checker program, a piece of software that will solve all your spelling problems. Or should. Our reviews reveal that some come close, some do specialized checking better than others, and some just don't make it.

The May 1986 issue of *The Macintosh Journal* contained detailed reviews of eight spelling checkers. Each was put through a comprehensive set of benchmarks, and the results were charted and scored. A lot of the word data actually used, as well as the results, were published.

This article includes highlights from the individual reviews, a features table, suggestions for selecting the right spelling checker and recommendations (a product must receive a score of at least 6.0 to be endorsed by *The Macintosh Journal*), about the products we reviewed. We added one new product (*MacGAS*) and reran our tests on a totally new version (2.0) of *MacLightning*. If you feel you need more detail, the complete results are available in the May 1986 issue of *The Journal*.

SELECTING A SPELLING CHECKER

Here are some questions that you should answer before you purchase a spelling checker.

1. Determine your style of writing. Creative writers will find "check-as-you-type" spelling checkers quite annoying and will probably prefer "batch" programs that check entire files. If you are typing from prepared copy, an interactive dictionary can help you look up spellings, synonyms and hyphenation.

2. Select an accurate and comprehensive dictionary from the start.

3. Choose a dictionary with the capability to add and delete words of your choosing.

4. Choose a checker with a moderate-size dictionary, if you will use it with 400K disk drives.

5. Select a spelling checker that lets you view the suspect words in context. In spelling checker terminology a suspect word is one the program thinks is misspelled. Maybe it is, and maybe it isn't. It's important to see the word in context so you can be the final judge.

6. Choose a program that checks for capitalization.

7. Pick a spelling checker that is easy to use and operates quickly. Larger dictionaries slow the checking process, but may be worth the extra time if you have a large or exotic vocabulary.

8. Select a spelling checker that has the capacity to handle your documents.

9. Back up the dictionary after you purchase a spelling checker. As you build custom dictionaries, back them up so that you will never lose more work than you are willing to do over.

HAYDEN: SPELLER (VER. 1.2)

Overall Rating 7.3/10.0

Hayden:Speller (Hayden Software) is a flexible, batch-type spelling checker. Words from a text document can be added to as many personalized dictionaries as you want. You can convert any personal dictionary into a text file for editing, and you can add suspect words to a personal dictionary while checking a document. *Hayden:Speller* is the only spelling checker that allows you to print suspect or valid words on the ImageWriter or LaserWriter.

Two disadvantages of *Hayden:Speller* are the small size of its dictionary (20,000 words), and the number of unique words it can handle. The dictionary size problem can be corrected by adding words to the dictionary (an easy process), but the number of unique words the program can handle cannot be changed. If you want to check a document that has more than 1500 unique words, you must divide the document into smaller files, spell check each one, then reassemble the document.

While support for this product is adequate, it appears that *Hayden:Speller* has been abandoned before it

reached maturity. No updates are planned, although the program has great potential and could easily be an excellent or even superior program. [MacUser *note: It appears that Hayden has withdrawn from the Mac software market.* Hayden:Speller *is still widely available, however. The product may be picked up and marketed by another company. Watch our "New On the Menu" section for further news.*]

We recommend that you carefully examine your needs and writing style before purchasing *Hayden:Speller*. *Hayden:Speller* is really useful only to people who work with small documents.

LIBERTY SPELL CHECKER (VER. 2.0)

Overall Rating: 5.8/10.0

Liberty Spell Checker (DataPak Software) is a desk accessory that checks spelling either instantaneously or in a batch mode. It can be used with virtually any application that uses the Clipboard correctly.

In the instantaneous mode, when a possible misspelling is noted, the computer displays an alert box and beeps. The user must then push cancel to return to the word processor and manually insert the correct spelling. In the batch mode, *Liberty* scans any block of text copied into the Clipboard for misspellings, and then displays a list of misspelled words. A new version of *Spell Checker* recently released by DataPak allows you to install Search and Replace macros to automate the correction process.

Liberty Spell Checker was usually the fastest program in our batch mode speed tests. It also beat *MacLightning* in the instantaneous mode. However, *Liberty Spell Checker* was also number one in the quantity of suspect words found (most of which were actually correctly spelled).

And we thoroughly dislike *Liberty Spell Checker*'s copy-protection scheme. The master disk allows the end user to install *Liberty Spell Checker* a total of six times (which is *inadequate*). While the master disk can be copied, each copy is restricted to the number of copies left on the master when it is copied. It's too easy to permanently lose the ability to make copies. This copy protection is not true protection, but merely harassment of legitimate users. The only other protected spelling checker is *Hayden*.

Liberty Spell Checker should find a niche checking text in those "awkward" applications (*MacPaint, MacDraw,* spreadsheets, etc.) where many checkers simply don't work.

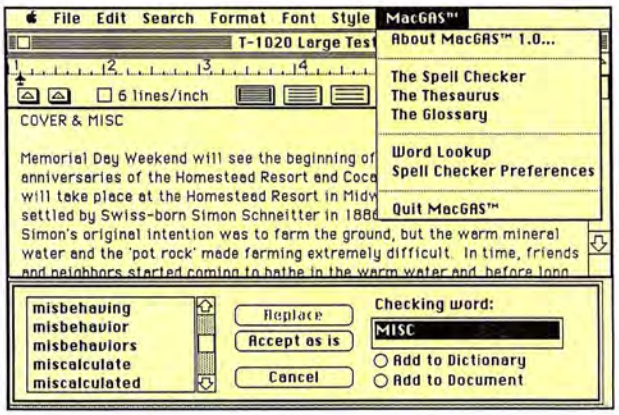
MACGAS (VER 1.0)

Overall Rating 6.3/10.0 (Aug 1986)

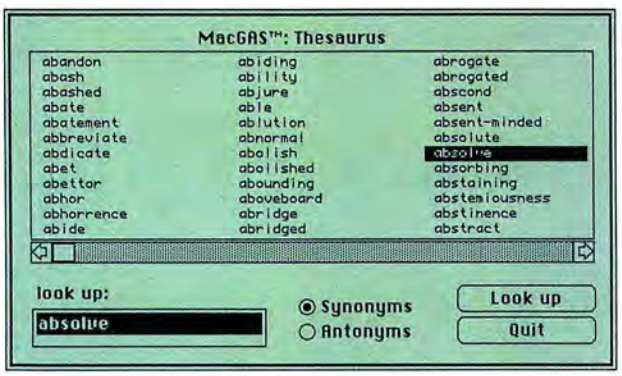
MacGAS (Glossary And Spellchecker) from EnterSet is very similar to *MacSpell+* from Creighton Development. Both programs give the same feeling and both are somewhat similar in performance.

MacGAS is a very new entry on the market, yet it lacks some critical features. Words can be added to a supplementary dictionary, but added words cannot be selectively removed. The only delete function is to toss the User Dictionary into the trash.

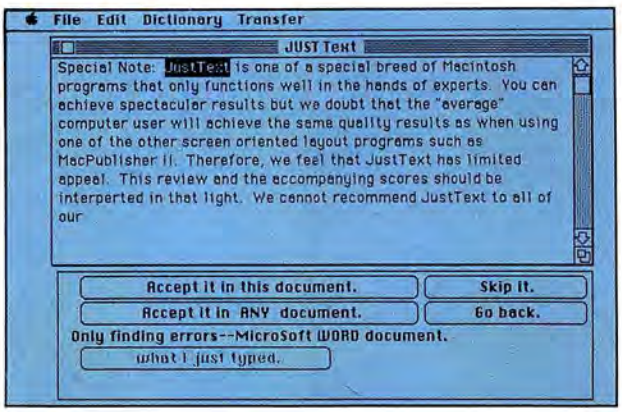
MacGAS comes with both a small dictionary and an extended dictionary. We recommend that you use



***MacGAS* is a "semi-batch" spelling checker that works as a desk accessory in *Word* and *MacWrite* documents.**



The thesaurus in *MacGAS* is excellent. Note that synonyms and antonyms are available for the words listed. This is easily the best thesaurus we have seen yet.

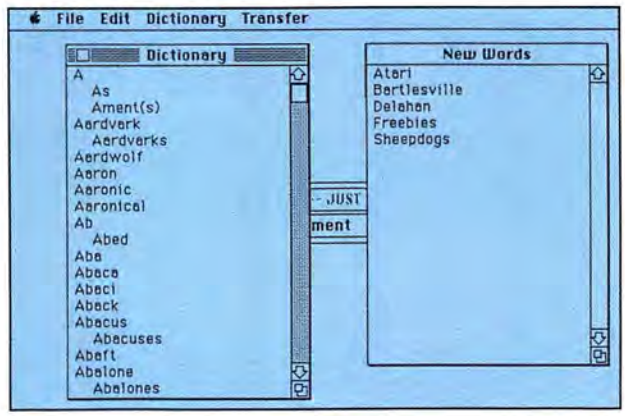


***Spelling Champion* very rapidly finds and displays words that are not found in its dictionary. The suggested spellings are usually accurate. Unfortunately, it can not automatically correct errors in *Word* files.**

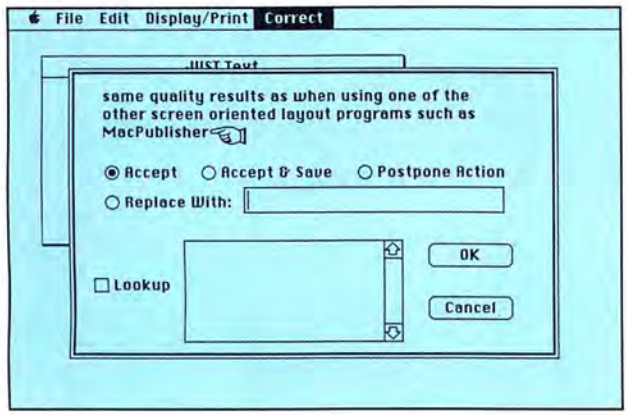
the extended dictionary to avoid stopping on a great many correctly spelled words. However, we don't recommend you use *MacGAS* with the extended dictionary on 400K drives. Also, don't add words to the dictionary while you are checking long documents. It took *MacGAS* as long as 40 seconds to move from one word to the next in one of our benchmarks!

One excellent feature of *MacGAS* is its thesaurus. We spent considerable time just looking up word after word after word. The thesaurus also provides antonyms. Another good feature is the glossary. You may enter four-letter abbreviations for commonly used phrases or entire paragraphs. *MacGAS* will then call up the phrases when the abbreviation, followed by a delimiter (such as a comma), is typed. One caution—choose your abbreviations carefully or you will be backspacing a lot.

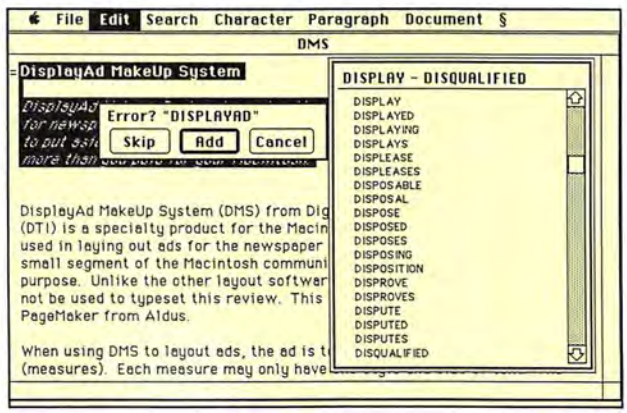
MacGAS isn't particularly fast and it doesn't have the most comprehensive dictionary, but it does offer an excellent thesaurus and a good glossary. If you need these features as well as a spelling checker add it to your list.



***Spelling Champion's* "alphabetical" dictionary has some words in scrambled order because of the scheme used to compress the dictionary. Words can be easily added to or deleted from the dictionary.**



With *Hayden:Speller*, the suspect words are shown in context. You can choose to lookup, type, ignore, or postpone action on a word.



***Liberty Spell Checker* will check as you type (interactive) or it can check a text block copied to the Clipboard. Words are easily added to the dictionary and added words are displayed in the dictionary window.**

MACLIGHTNING (VER 2.0)

Overall Rating: 6.3 (rating for version 1.0 was 5.7) (Aug 1986)

MacLightning (Target Software) is one of the spelling checkers that scans for errors as you type, and then beeps when you make a mistake. It also has an option to check a complete document or a selected portion of a document.

This program is very flexible and works with a large number of applications. Its flexibility is further extended by specialty dictionaries (legal and medical) from Target Software. One nice addition to version 2.0 is a delete function for removing words from the dictionary.

The name, *MacLightning* , implies speed and Target claims to check 60+ words per second. These claims seemed too good to be true. We could never achieve speeds anywhere near the claims. The greatest speed we ever saw was some 12 words per second. As far as lightning speed, there appears to be more thunder than lightning.

There are still a couple of problems with this program. In the interactive mode, *MacLightning* does not keep up with a fast typist. Version 2.0 is faster, but we were still usually one or more words ahead when the beep sounded for a misspelling. After using the program for several hours, you learn to ignore the beep.

The inclusion of the complete *Merriam Webster Ninth New Collegiate Dictionary* has greatly increased the usefulness of *MacLightning*. You may want to purchase this product just to have its excellent dictionary as a desk accessory. We recommend *MacLightning*, as a spelling checker, to those whose writing style and temperament are adaptable to constant interruption. We can't recommend that *MacLightning* be used in its Check Selection mode of operation for large files. There are just too many good batch spellers that do a better job and are easier to use.

MACSPELL+ (VER 1.10)

Overall Rating: 6.6/10.0

MacSpell+ (Creighton Development) installs as a desk accessory and checks spelling smoothly and easily in *MacWrite* (2.2 and 4.5) and

Word. The on-line hyphenation feature lets you determine where to break words while typing and the 75,000-word dictionary lowers the number of suspect words you have to review. However, *MacSpell+* lacks some desirable features. It presents suggested spellings for suspect words, but does not allow you to scroll through its dictionary. The dictionary file is large and 400K disk drive owners will have difficulty using this program without swapping disks.

MacSpell+ has one very strong feature. Since it installs as a desk accessory, you don't have to close your file while you check for misspellings. However, *MacSpell+* must finish its operation or be stopped before using the word processor again.

There are two major flaws with *MacSpell+*. First, *MacSpell+* cannot display the words in its dictionary. Second, words cannot be removed once they are added to the supplemental dictionary. If you accidentally enter a misspelled word—you're stuck with it.

A minor complaint is that you can't enter hyphenation or thesaurus information. Also, new words that are added to the dictionary will not appear as guesses for suspect words.

Creighton Development gave us prompt and courteous attention when we called with a problem using *MacSpell+* with our HyperDrive. The problem required them to call back and they did—with correct and accurate information.

It is difficult to make a recommendation about an average, middle-of-the-road spelling checker like *MacSpell+*. We recommend that you test this product before you purchase it.

MAC•SPELL•RIGHT (VER 3.3)

Overall Rating: 5.3/10.0

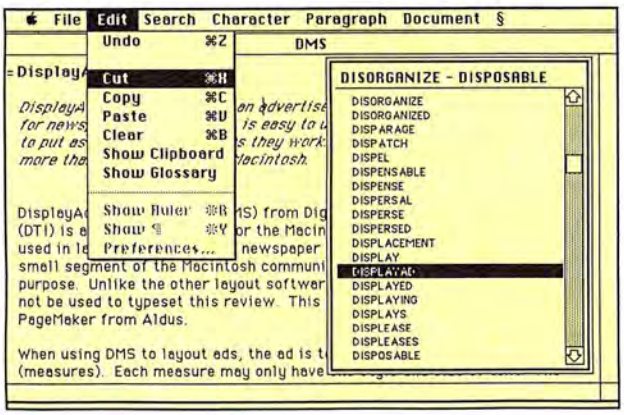
Assimilation's *Mac•Spell•Right* is a unique program that is "semi-batch" in operation. It doesn't check spelling as you type, but it is available as an automatically installed menu item whenever you enter *MacWrite*.

The user interface is generally easy to understand and use. You can start checking a document at any point in the document and can stop the operation at any time, even while searching for the next "misspelled" word. *Mac•Spell•Right*'s dictionary is one of the top two or three dictionaries we tested as far as comprehensiveness. It also has an excellent on-line thesaurus.

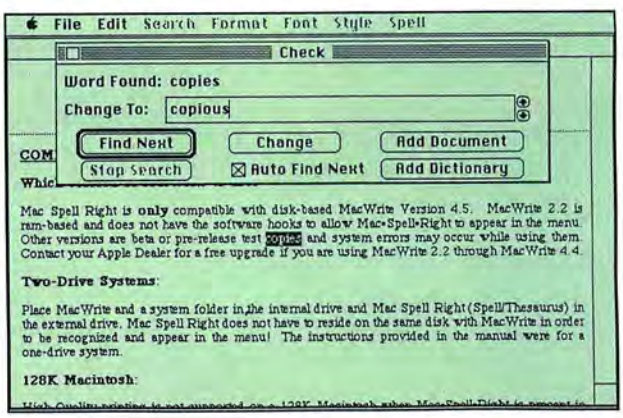
One definite disadvantage of *Mac•Spell•Right* is that it is limited to *MacWrite* 4.5 files. Also, there are no scroll bars in the dictionary. If you want to go from A to Z you must step through the entire dictionary.

There are other problems. We were repeatedly able to bomb the program on both a Mac Plus and 512K Mac when trying to add words to the dictionary and it is slow. *Mac•Spell•Right* was never faster than fifth in our benchmark speed tests. Only Assimilation's other program, *The Right Word,* was slower than *Mac•Spell•Right*.

Overall, *Mac•Spell•Right* is a mediocre performer. Unless you use a thesaurus regularly, *Mac•Spell•Right* offers nothing outstanding in performance or features. And with the closing of Assimilation, there is no publisher support available.



Words are as easily deleted from *Liberty Spell Checker* as they are added.



***Mac•Spell•Right* checks for spelling errors directly in *MacWrite* (4.5) documents.**



***Mac•Spell•Right* has a thesaurus function. Words in bold type have thesaurus entries.**

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CHECK IT OUT

THE RIGHT WORD (VER 3.0)

Overall Rating: 5.2/10.0

The Right Word (Assimilation) is a spelling checker that will work with *Word, MacWrite* and *Jazz*. However, after using *The Right Word*, you may decide to let your fingers do the walking instead.

One of the few good points about *The Right Word* is that you have a choice of dictionaries. The 40,000-word dictionary displays suspect words in context and allows you to look up words in the main dictionary. The program will also make a guess at the right spelling. The 200,000+-version (XL) shows the suspect word in context, but no dictionary look-up or best guess are available.

This program has some annoying implementation problems. The dialog box buttons are too small, and it's easy to choose the wrong box accidentally. Dictionary scrolling can only be done one word at a time. There is no way to skip over intervening words. When you finish correcting a document, *The Right Word* automatically returns you to the desktop. You must restart the program and wait for it to load before checking another document.

The biggest minus with *The Right Word* is speed. In our test using a large (approx. 12,000-word) article, *The Right Word* took over 2 hours to check the document and add all suspect words (584) to the dictionary. *The Right Word* wins our crippled turtle award for performance.

As for support, forget it! We were never able to get in touch with Assimilation. We recommend you avoid *The Right Word*. [MacUser *note: Assimilation was in business when this review was prepared, but has since closed down. Support is not going to get any better.*]

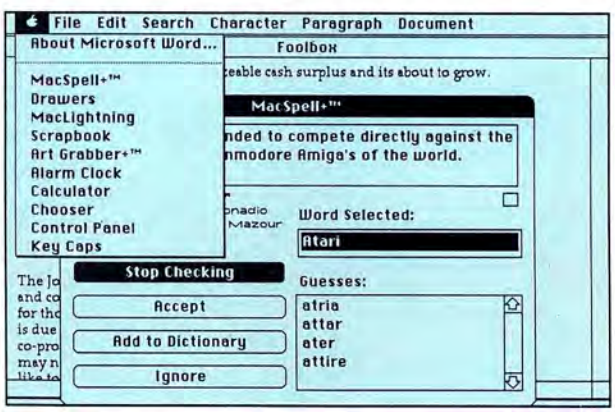
SPELLING CHAMPION (VER 2.0)

Overall Rating 6.8/10.0

Spelling Champion is a batch-type spelling checker that scans *MacWrite* 4.5 and text files for errors. Suspect words are displayed in context and the user is able to select from any of three suggested spellings or from another word in the dictionary. *Champion* is unique in that it has a "backup" feature that will undo the



***MacLightning* uses the *Merriam Webster Ninth New Collegiate Dictionary* (80,000 words).**



***MacSpell+* shows the suspect word in context along with suggested spellings. Unfortunately, you can not look up a particular word or delete a word from the dictionary.**

corrections in a paragraph. Also, its relatively small size permits its use on 128K systems with two disk drives.

On our speed benchmarks, *Champion* was always among the top three finishers and was often the fastest when checking a document. Coupled with this speed is a high degree of accuracy. With *Champion,* we spent less time looking at correctly spelled "suspect" words.

Any word can be added to or deleted from the dictionary. Words that are added to the dictionary are displayed in the dictionary window and appear as suggested spellings for "similar" suspect words.

About the only negative features of *Champion* are that it works exclusively with *MacWrite* and its lack of support. Champion Software offers support only by mail—in our determination that is much too slow a method.

We think that *Champion* has potential and is a good buy if you only use *MacWrite* 4.5.

SPELLSWELL (VER 1.2C)
Overall Rating: 7.4/10.0

Spellswell (Greene, Johnson) is a standalone program for checking spelling and homonym usage in any *MacWrite, Word* or standard text document. *Spellswell* is easy to use, requires no installation, is not copy protected and includes adequate online documentation.

In general, *Spellswell* always performed at speeds much better than average (but not without some minor bugs). *Spellswell* was slightly below average in dictionary comprehensiveness tests. However, the ease with which words can be added to or deleted from the dictionary partially compensates for its initial word deficiency.

Spellswell can check for double capitals, noncapitalized proper names and spaces after commas and periods. It also checks hyphenated words and word phrases such as "E Pluribus Unum" (which are generally found together) as a single word.

We found several misspelled words in *Spellswell*'s dictionary. Greene, Johnson has corrected the misspelled words in their newly released version 1.2d.

HFS £ocator Plus

HFS Organizer for the Macintosh™ **$34.95**

HFS £ocator Plus is a desk accessory which helps you organize the Hierarchical File System. It will locate files by full or partial name or by date and will display the "Path" or location of the file and allow manipulation of that file without going back to the desktop.

After finding a file, HFS £ocator Plus can show info, delete, rename, move to another folder, copy, or launch that file. You can even create new folders to move the file into... all without leaving the present application. It is also possible to catalog the entire disk or a particular folder.

No longer does one have to spend time locating and organizing files that are buried within folder, within folder, within folder... or always having to go back to the finder to organize that file. HFS £ocator Plus solves the problem.

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A Desktop Customizer for Macintosh™ **$29.95**

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Hard disk back-up utility for the Macintosh **$49.95**

HD Back-up is a generic hard disk back-up utility that supports both the MFS and HFS file systems for the Apple Macintosh. The program copies all files from the hard disk to floppy disks.

The program performs both global and incremental back-up (backs-up only changed files from last global back-up, thereby saving time and disks) — simple to use.

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CHECK IT OUT

Comparison of Features for Nine Spelling Checkers

Feature	The Right Word XL*	The Right Word	Spellswell	MacSpell+	Mac-Lightning	Mac Spell Right	Liberty	Hayden Speller	Spelling Champion	MacGAS
Version Number	3.0	3.0	1.2c	1.10	2.0	3.3	2.0	1.2	1.0	1.01
Size of Application	33K	32K	59K	≈32K	52K	72K	12K	47K	204K	5K
Size of Dictionary										
Words	200,000+	40,000+	60070	75,000	80,000	40000	?	20,000	?	80,000
Characters	92K	60K	208K	354K	301K	94K	91K	55K	NA	394K Total
Minimum Hardware	512K-2D	512K-2D	128K-2D	512K-2D	512K-2D	128-2D	512K-2D	128K-2D	128K-2D	512K-2D
Hardware We Suggest	MacPlus or Hard Drive	MacPlus or Hard Drive	512K-2D	MacPlus or Hard Disk	MacPlus or Hard Disk	512K-2D	512K-2D	512K-2D	512K-2D	MacPlus or Hard Disk
Stand Alone Program or Desk Accessory	Program	Program	Program	DA	DA	DA	DA	Program	Program	DA
Installation Required	No	No	No	Yes	Yes	No	Yes	No	No	Yes
Dictionary Features										
Thesaurus	No	No	No	Yes	No	Yes	No	No	No	Yes
Homonyms	Yes	Yes	Yes	No	No	No	No	No	No	No
Hyphenation	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Online Dictionary	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Spelling Suggestions	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
See Words in Context	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
See Suspect Words Only*	No	No	No	No	Yes	No	Yes	Yes	No	No
Supplemental Dictionaries*	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	No
Print Suspect Words	No	No	No	No	No	No	No	Yes	No	No
Add Suspect Words*	Pers. Dict.	Yes	Yes	Yes	Yes	Yes	Yes	Pers. Dict.	Yes	Pers. Dict.
Add Words From List*	No	No	No	No	Yes	No	Yes	Yes	No	No
View Added Words	No	No	No	No	Yes	No	Yes	No	Yes	Yes
Delete Dictionary Words	No	No	Yes	No	Yes	Yes	Yes	Pers. Dict.	Yes	No
Capitalization	No	No	Yes	No	Yes	No	No	No	No	Yes
Method of Checking										
While You Type	No	No	No	No	Yes	No	Yes	No	No	No
The Entire File	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Any Selected Text	No	No	No	Yes	Yes	Limited	Yes	No	No	Screen
Works With:										
Microsoft Word	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Partially	Yes
MacWrite	Yes	Yes	Yes	Yes	Yes	Only	Yes	Yes	Yes	Yes
MacPaint	No	No	No	No	Yes	No	Yes	No	No	No
Microsoft File	No	No	Text File	No	Yes	No	Yes	Text File	Text File	No
OverVUE	No	No	Text File	No	Yes	No	Yes	Text File	Text File	No
Jazz	Yes	Yes	Text File	No	MacPlus	No	MacPlus	Text File	Text File	No
May Work With Others	No	No	Text File	No	No	No	Yes	Text File	Text File	No
Statistics										
Word Count	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes
Suspect Word Count	Yes	Yes	Yes	No	Yes	No	No	Yes	No	Yes
Unique Word Count	No	No	No	No	No	No	No	Yes	No	No
Word Length	No	No	No	No	Yes	No	No	No	No	No
Copy Protected	No	No	No	No	No	No	6 installs	Yes	No	Yes

Items marked with an asterisk are explained below:

The Right Word and Right Word XL are included in the same package. The XL in the title refers to "extra large" dictionary, not to the Macintosh XL.

See Suspect Words Only: It is convenient to be able to see all suspect words in one list. Correctly spelled words can be eliminated from the list before viewing each suspect word in context.

Supplemental Dictionaries: Writers who write for very different audiences or handle a wide variety of subjects may want to build supplemental dictionaries based on these special topics. These independent dictionaries can be used when needed.

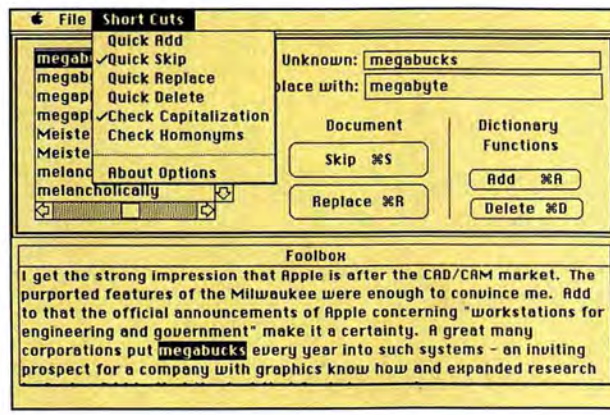
Add Suspect Words: All dictionaries should have the capability to add new words with minimum effort. Some spelling checkers only allow the addition of words to a supplemental or personal dictionary.

Add From List: This feature assists you in dictionary maintenance. You can keep files of words that have been added to your dictionary. If you need to recreate your dictionary, you can use these lists.

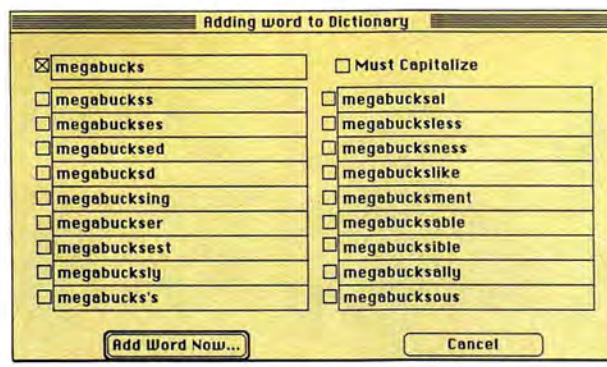
Greene, Johnson provides excellent support for this product. Our recommendation is "buy it—you'll probably like it." *Spellswell* isn't the fastest, but it is adequate; it doesn't have the biggest dictionary, but it learns well; and perhaps most importantly, it doesn't bomb while performing basic operations and functions.



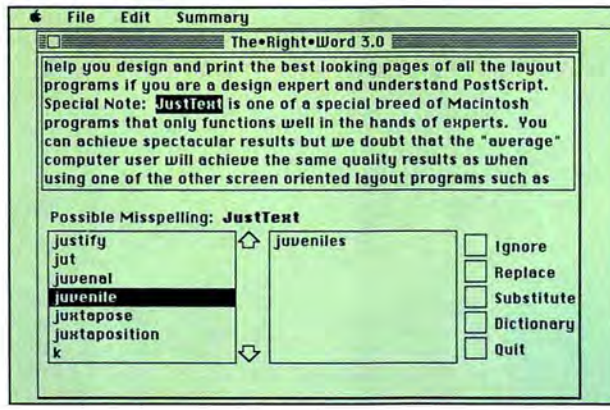
***MacSpell+* will display the proper hyphenation and act as a thesaurus for words selected before the *MacSpell+* window is opened. Hyphenation and thesaurus functions are only available for some words.**



***Spellswell*'s screen is designed for ease of use. Several "quick" options can customize *Spellswell*'s operation.**



Adding words to *Spellswell*'s dictionary is easy and flexible. Words can be required to begin with capital letters.



***The Right Word* has control boxes that are small and close together. One slip of the wrist and you add a misspelled word to the dictionary — permanently.**

RECOMMENDATIONS

None of the programs we reviewed possessed all the qualities we would like to see. Our highest recommendation goes to *Spellswell*. *Spellswell* works with both *Word* and *MacWrite;* is not limited to a certain number of unique words, and the price is reasonable. Overall, it is a pretty good value.

For writers who never need to check large documents, *Hayden:-Speller* is a good choice. However, it is slightly more expensive than *Spellswell* without any real added benefits.

For *MacWrite* users who don't care about support, *Spelling Champion* is an excellent choice. Its speed, ease of use and dictionary make it a great performer.

The new version of *MacLightning* is worth purchasing just for the quality dictionary it contains. To obtain the greatest utility from this program, a hard disk is recommended because of the size of the dictionary.

The only other products that receive our endorsement are *MacSpell+* and *MacGAS*. *MacSpell+*'s strong points are its dictionary features and the fact that it works interactively. *MacGAS'* strength is its excellent thesaurus.

The Right Word is so slow that we cannot recommend its purchase, even though it has a large dictionary. *Mac•Spell•Right* is also very slow and is limited to *MacWrite* documents. Its only redeeming feature is its thesaurus.

The others? Well—you choose.

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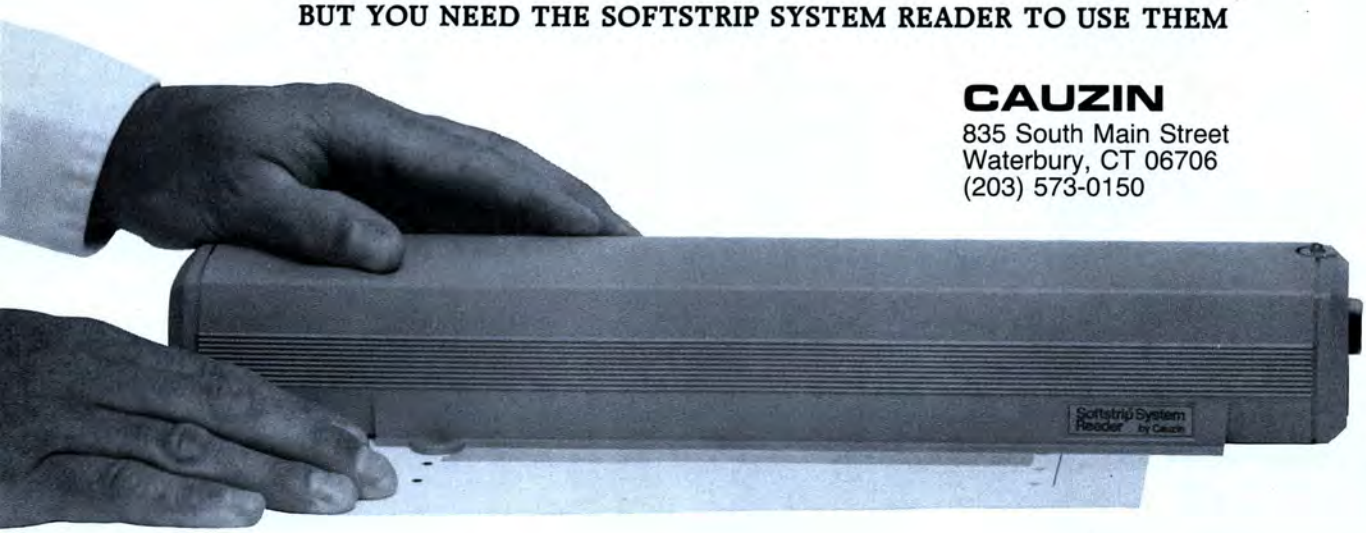
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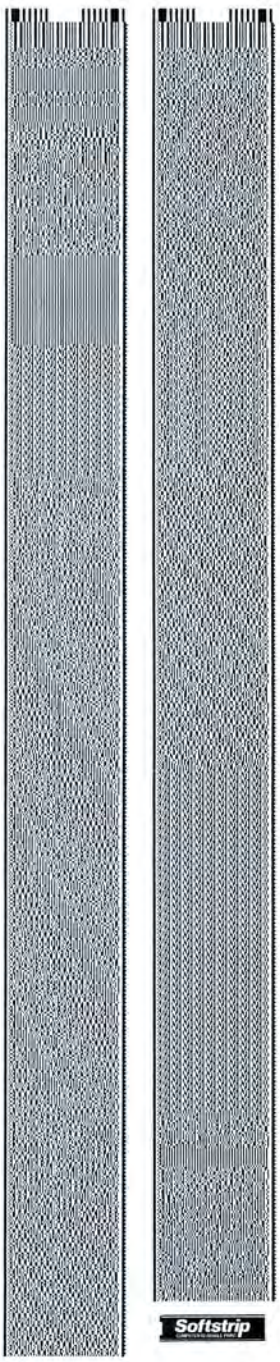
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DISK MEMO *(at right),* Give memos a personal touch with these strips that contain an art file created with MacPaint that can be loaded into MacPaint or many of the Macintosh word processors. From the Finder, double click on the DISK MEMO icon. If MacPaint is also available, the file will be opened.

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MY PAINT RUNNETH OVER

by Carl Haeberle

A full-length look at full-length Mac painting.

SINCE THE MAC CAME OUT, DEvelopers have tried to build a better *MacPaint* by designing desk accessories and add-on "support" programs. Now Ann Arbor Softworks has gone a step further —created a better Macintosh paint program—and has done it well. *FullPaint* takes *MacPaint* and extends it in every direction.

This single program more than replaces a customized paint system that includes *MacPaint,* Hayden's *Art Grabber,* T/Maker Graphics *Click-Art Effects,* desk accessory mouse locators and desk accessory rulers. It looks like Ann Arbor Softworks listened to every desire of Mac artists and put them into one program.

THE OBVIOUS

At first glance, you'll have trouble telling *FullPaint* from *MacPaint.* Only three differences are immedi-

JENNY LYNN

MY PAINT RUNNETH OVER

ately evident. The first is that the drawing window has scroll bars—a feature notably lacking in *MacPaint*. Second, there are three tiny "screens" below the Line Select box in the tool window that let you pick the type of operating area: the usual window with a gray frame and menu bar showing; a full screen with menu bar; and a full screen without the menu bar. The full screen gives you a good 80 percent more work area than the *MacPaint* screen we've come to know and (sometimes) hate. In the full screen mode you have the complete Mac screen area to work in.

The third difference is a tiny question mark at the upper right of the active window that gives instant access to a Help screen and a screen full of short cuts. Often the menu-selected help screens in *MacPaint* are overlooked, since you must pull down a menu to get at them. In the heat of creation, that's a sometimes jarring and unnecessary act.

THE NOT SO OBVIOUS

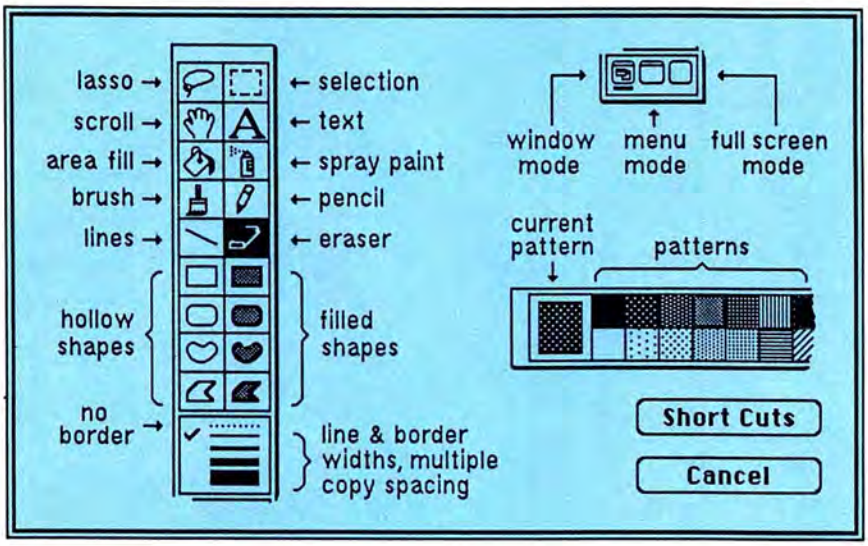
After working with *FullPaint* you'll discover some major improvements that may not be obvious at first glance. For instance, the pattern palette and the tool window are movable. This is handy, particularly when you are working in the full screen mode. If either one gets in your way, just move the cursor to any border of either "service box" (tools, palette, mouse locator, etc). The cursor changes to a double arrow, and then you just drag the box out of the way. The tools can also be completely hidden by selecting Hide Tools from the Windows menu, pressing COMMAND T and, in many cases, pressing the space bar.

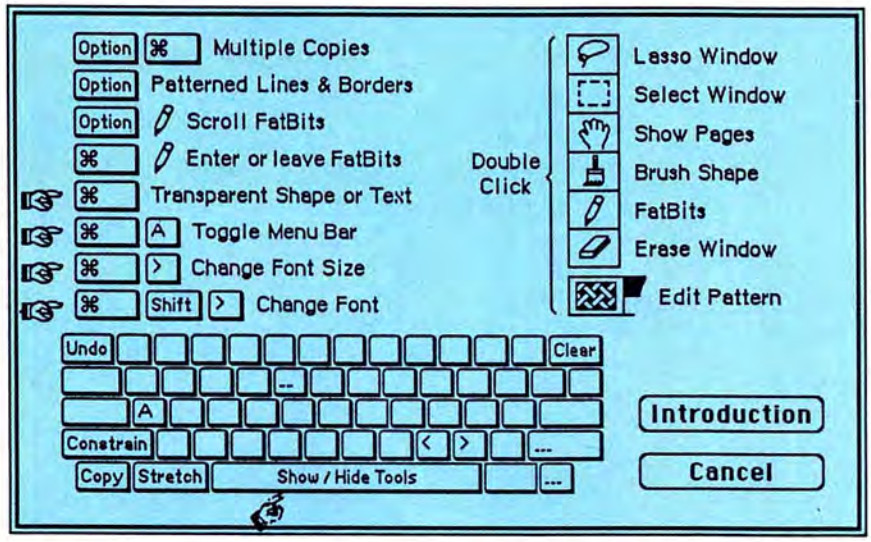
Even more useful is *FullPaint*'s ability to display more than one file (document) at a time. You can switch from file to file, and cut and paste between documents. This is great when you use clip art to add appeal to a drawing, and if you do color separations multiple windows are a godsend. The number of files you can work with at a time depends on the amount of memory in your Mac. (On a Mac Plus you can work with up to four, but a 512K Mac may halt you at three, if the files are large.)

You can use this multiple window feature as a pseudo-*Scrapbook*. Instead of either renaming *Scrapbooks* for various projects, or building a monster system *Scrapbook* that takes time to page through (and uses lots of disk space), you can just cut or copy from your artwork and then paste elements into a *FullPaint* "scrap" document. The disadvantage of this technique is that you can't read your "scrap" document into other programs without a utility such as *Art Grabber,* but if you work primarily within *FullPaint* this technique won't slow you down.

Two commands in the Window menu let you shuffle your drawings —they can either be stacked in a diagonal pile (with the name bar showing) or displayed as smaller windows side by side. If you have three drawings loaded, the active window displays as a half screen while the other two display as quarter screen images. The artwork doesn't change size—only the window is reduced.

Each open document is automatically assigned a command key—COMMAND 1, 2, 3, or 4, depending on the order in which they were loaded into memory. Pressing COMMAND 1 brings the first document from back to front, if the windows are stacked, and so on. The command keys can





The first of two help screens always available by clicking on the small "?" at the right side of the title bar of the active window. The "hands" indicate differences from *MacPaint*.

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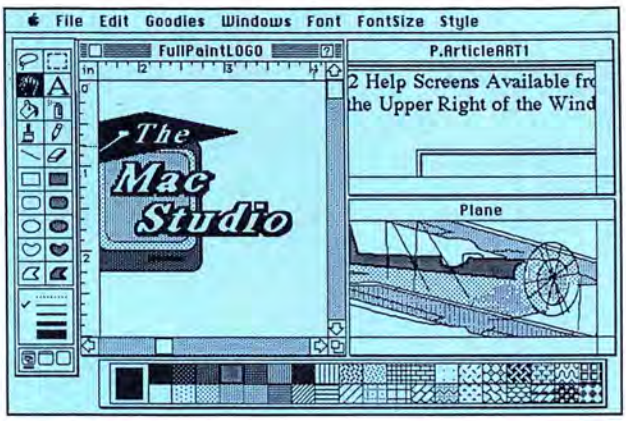
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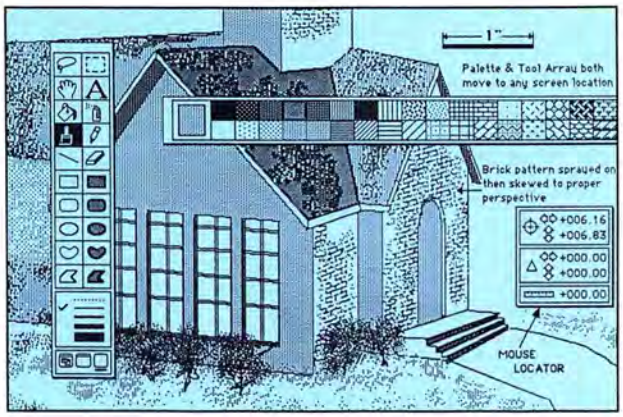
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MY PAINT RUNNETH OVER



Three documents tile when Clean Up Windows is selected. The active window is assigned half the available space, while the others get a quarter each. Note the screen selector at the bottom of the toolbox. The selection in effect is underlined.



The whole screen mode has been selected. The toolbox and pattern bar can be moved anywhere on the screen or removed entirely.

also be used to jump from one small window to another when the documents are displayed side by side.

The full array of *MacPaint* tools is available, with some additional functionality. For instance, double clicking on the hand gives you a Show Page option—but with a difference. In this full screen view you can page to "Next" or "Previous" documents currently loaded. This comes in very handy when you are comparing documents.

The *FullPaint* window has a smooth scrolling feature and permits the selection of objects or areas larger than screen size. Holding down the OPTION key when you select the marquee causes *FullPaint* to scroll beyond the active window, while a triple-click on the marquee will select the entire page.

Four commands found in the Edit menu—Skew, Perspective, Rotate and Distort—provide a means of modifying a drawing. Capture the portion of the drawing you wish to effect with the marquee tool (holding down on the COMMAND key snaps the marquee to the smallest possible rectangle), and then select any of the modifiers.

With Rotate you can move a drawing in one-degree steps. Perspective shoves the top (or bottom) corners together in unison. Skew builds a parallelogram from the original marquee rectangle, and Distort lets you move each corner of the marquee independently. These are basically the same functions the *ClickArt Effects* desk accessory provided but with *FullPaint* you don't have to leave the program to access them.

It's a good idea to do these special effects while your artwork is in line form (before adding gray tones), because the gray tone patterns will shift with the drawing. Once you've modified the drawing, you may have to reconnect some lines, since they tend to break up when you shift the artwork.

WORDS ON PICTURES

FullPaint offers some interesting new tricks for mixing text and graphics. By holding down the OPTION key before you mark a text location you can create Transparent Text. This makes it easy to put text right over patterns without the ugly white strip on the top and bottom that is a "feature" of *MacPaint*.

The Preferences menu allows you to select a type face in any size up to 127 points. Unfortunately, even if your output is going to the LaserWriter, odd-sized letters won't be perfectly smoothed, as they are in object-oriented programs (well, you can't have *everything*).

Two extra tools included in *FullPaint* are themselves worth the price of admission—the Mouse Locator and Rulers. The rulers extend to the full size of the drawing. Unfortunately, however, you can't redefine the starting point of a ruler. But the Mouse Locator provides an instant-by-instant reading of how long a line is, or how large a box or circle you have drawn is. The Mouse Locator also notes where the mouse position is in relation to the top left corner of your page. This is perfect when you want to establish a specific position for the start of your artwork.

If you need to get very exacting with the position of the mouse, hit the Caps Lock key and the mouse slows to a crawl, giving you very fine control over starting and ending points of a line or shape. You can start a line at full speed, and then hit Caps Lock as you approach your final position. This technique lets you move along at normal speed until you get close to your target area; then it slows the mouse down to allow precise control. The combination of the Mouse Locator and the Crawl function increase your control dramatically.

GORGEOUS IN, GORGEOUS OUT

The fun really begins once you've finished your drawing. That's because print selections are far wider than in *MacPaint*.

In draft mode you can print in 200 or 400 percent expansion (as well as 50 percent reduction). The enlarged picture is printed out a tile (or portion) at a time.

There is even an answer to those who need quality printouts of large artwork, or real quality on the LaserWriter. Draw your work (in "coloring book" or outline style) with as

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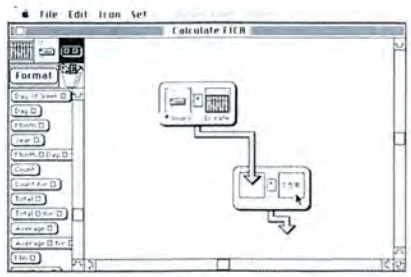
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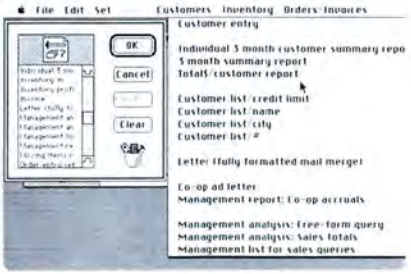
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This package includes: three disks (the Double Helix program disk, System disk, and Resource/Work disk with sample applications), two reference manuals, a Quick Start Manual and an 18-ring project binder with note pad. To Odesta, your business is as important as our own. Call us toll-free with technical questions or to inquire about our Consulting and Design Services.

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Requirements

- Works with the Macintosh Plus, Macintosh 512K Enhanced, Macintosh 512K with external drive. Hard disk or 800K drives recommended.



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MY PAINT RUNNETH OVER

few filled areas as possible. Then quit *FullPaint* and call on the *LaserPrint* program (provided on the Master Disk). This allows you to blow up your drawing into 4 or 16 panels and save each as a *FullPaint* drawing. Then go back into *FullPaint* and "doctor" each individual file, pixel by pixel if necessary (but you'll be working at the equivalent of 300x300 dpi resolution, the same resolution you get on the LaserWriter).

Smooth up the individual documents and fill in your gray tones, then go back to the print mode and print out the multiple units as a single "reduced"-size document. For smaller work, just reduce the drawing to half (50%) the original size when you begin to print and the output will automatically hold the 300 dpi resolution available from the LaserWriter.

With the ImageWriter, printing in Good quality mode produces an unsmoothed,but basically good image. Printing in High quality brings in the *FullPaint* smoothing routines. They are different from those used in *MacPaint*, and in your final printout you can tell the difference.

THE DOWN SIDE

Nothing is ever perfect, and this program is no exception here. For a starter, *FullPaint* has a bear of a copy protection system. On the first run of *FullPaint* disks, the copy protection was so intense it prevented the program from being used at all. Now the disk is copy protected, but it does allow you to install the program twice on a hard disk.

You can also *un*install it in case you change hard disks. But, if for any reason you run out of installable copies, then *every time* you fire up the program you have to insert your original master disk, even if you've installed the program on your hard disk. The copy protection is so intense that it will often demand to see the master when using the program with *Switcher*. Showing it the master when launching *Switcher* is not enough. That means, unfortunately, that the program should not be used in what should be a natural environment for it.

If you do a lot of moving between programs the copy protection is a royal pain in the palette. Just to make life a bit more difficult, when you install *FullPaint* on a hard drive, the master you insert has to be the same master that was used when the program was loaded onto the hard drive.

There is also a decided lack of smoothness in some of the tools. When you first click on a tool it takes a split second or two for the program to catch up. This is particularly noticeable when using the lasso. If you're used to flying along with *MacPaint*, you'll have to slow down a bit on some functions.

There are some unusual interface quirks to get used to also. For example, when you quit or close a document, the Do You Want to Save dialog defaults to Cancel. That's a very odd choice and annoying if you're used to simply hitting return to save your work and close. Why did the designers', who got so much right here, think that Cancel would be the most likely choice? Maybe they thought you'd never want to leave their wonderful program.

All in all, though, the more you use *MacPaint* the more you'll appreciate *FullPaint*. Except for the abominable copy protection—which cost the program a full mouse in overall rating— its few quirks are easily overshadowed by its added functions and added depth.

Carl Haeberle is a San Francisco-area writer.

FULLPAINT

Overall Rating	■ ■ ■ ■ □
Follows Mac Interface	■ ■ ■ ■ □
Printed Documentation	■ ■ ■ □ □
On-Screen Help	■ ■ ■ ■ □
Performance	■ ■ ■ ■ □
Support	■ ■ ■ ■ □
Consumer Value	■ ■ ■ ■ □

Comments: Fulfills just about all your wishes for *MacPaint*. **Best Feature:** Ability to display multiple windows. **Worst Feature:** Copy protection can interfere with operation, *especially* if you are working from a hard disk. **List Price:** $99.95. Published by Ann Arbor Softworks, 308½ State St., Ann Arbor, MI 48104. (313) 996-3838. Version 1.0 reviewed. Copy protected.



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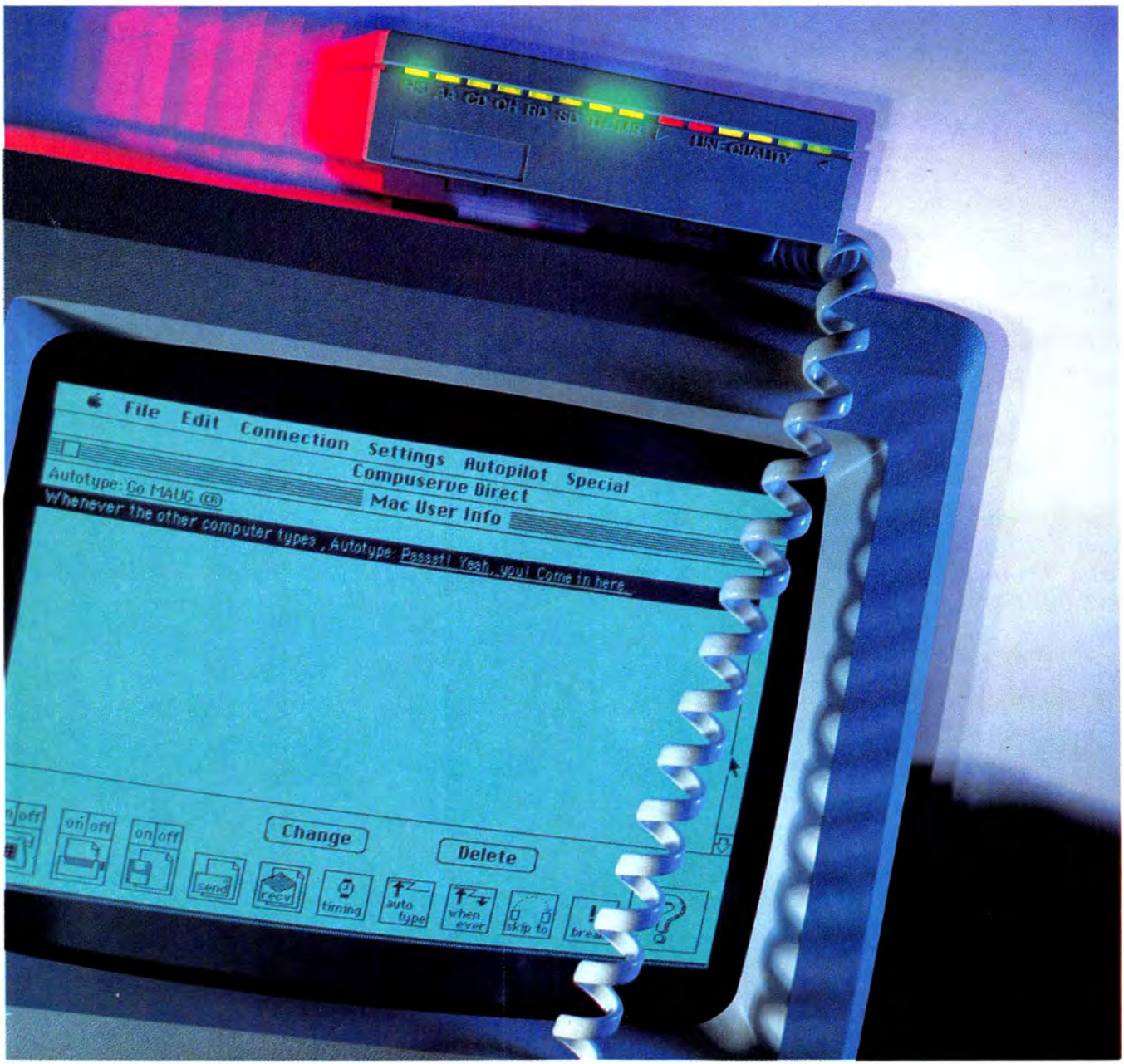
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by Robert R. Wiggins



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WHERE'S THERE?

There is MAUG, on the CompuServe Information Service, the largest consumer information service in the country. MAUG consists of an on-line magazine, Apples OnLine, and four Forums, the MacUsers Forum, the Apple II and III Forum, the Mac Developers Forum and the Apple Users Groups Forum. There's only one membership requirement: that you use your real name, not some CB "handle" or made-up name.

The MacUsers Forum is for any and all users of Macintoshes and Lisas. The Apple II and III Forum are for all other Apple computers. Apple Developers is not only for software developers, but also for serious programmers or anyone who just wants to participate (although nondeveloper issues are quickly sent back to the Users forums). Apple Users Groups is for officers, leaders or just members of Apple users groups around the world. Apple's Users Group Evangelist Ellen Leanse supports users groups directly here, and users group officers also help each other.

GETTING THERE

Getting there is not hard, but it's *not* half the fun. You'll need a modem, a telecommunications (terminal) program (preferably one that supports MacBinary), and a CompuServe subscription or starter kit (sold in most computer stores).

After you've gathered everything together, launch the terminal program. Somewhere in that program you'll find a way to set the communications parameters. Find it, and set yourself to 8 bits, no parity, and 1 stop bit. (You don't really want to know what that means. No one does. But it will be important later on.) You also can set up your terminal parameters, but the defaults are OK. If you do change the settings, you want to be set for full duplex (no local echo) with XON/XOFF enabled.

Now you need a local access number, which you get from your CompuServe starter kit. The next step is to make the connection. If your terminal program can dial on its own, tell it the proper phone number and let it do the work.

Once connected you need to identify yourself; the manual in the starter kit covers this part for all the different networks you can access CompuServe through. A note on passwords: pay attention to what the manual says about passwords. *Never* type your password except when you first logon. If you're asked for it while on-line, *do not* provide it. Even if it looks like CompuServe asking, it's better to hang up and logon again. Your password is the only way you have of making sure no one else runs up your bill. Keep it secret!

The results of your efforts so far will get you on-line. You'll end up at a CompuServe menu page. Here, and anywhere in CompuServe, whenever you don't know what to do, type a question mark (?) or the word HELP (followed by a carriage return so CompuServe knows you're through typing), and the things you can do at that point will be explained.

CompuServe is a *big* place, with *lots* of things to see, but you want to type GO MAUG (always hit the RETURN key after any command) to get to the MAUG main menu. Later on, you'll probably just type GO MACUS to get to the MacUsers Forum. But for now, go to the menu page. Type the number of the MAUG Forum you want to visit.

The first time you go to a MAUG Forum, you're just a visitor, and you need to leave a message requesting membership (you'll have to do this in each MAUG Forum you want to join — they're handled separately). Select the option to Visit the Forum. When asked for your name, type your real name (first and last) the way you want it to appear when you leave messages. The system will double-check it with you so you can correct typing errors. You will then get the Forum menu. Select the option to leave a message, and the system will ask you *To:*; answer *SYSOP*. Then it will ask you Subject:; answer "Membership Request." Now the system will let you enter a message. If you messed up your name, you can correct it here. If you do type a message (saying you

JOOK LEUNG

read about MAUG in *MacUser,* or introducing yourself), be sure to hit RETURN every 70 or 80 characters (about the time you get to the right margin). While your terminal program may wrap around the way *MacWrite* does, the CompuServe computers prefer lines about the width of the screen. When you're done with your message (or if you don't want to leave any), hit a RETURN at the beginning of a line to indicate you're finished, and CompuServe will ask Leave Action:. Type an S (for store message).

Now that you've left your request, go and explore the rest of CompuServe, as it takes 24 to 36 hours to process your membership request. When you go back to the Forum the next day, instead of getting the Visitor's Menu you should be greeted by name. If you do get the Visitor's Menu, select Visit the Forum again to see if the Sysop has left you a message regarding any problem with your request (usually it'll be because you didn't leave your full name). But eventually you'll be greeted by name, and you're in!

BEING THERE

Forums on CompuServe each have three parts: a message area, which is like a bulletin board where you can leave messages for other members and read messages others have left; data libraries, which are an electronic storehouse of software, *MacPaint* pictures, and all sorts of files available for downloading and using on your Mac; and a conference area (usually referred to as CO), which is a citizens-band simulator type affair, where what you type is displayed in real-time.

As soon as you arrive in MAUG, you should change to command mode. Seeing the same menus over and over again gets tiresome, and most of the hints and tips people will give you are for command mode. Just select OPTIONS (type OP) and turn menu mode off (set Use Menus to NO). The instructions given in this article will assume you are in command mode, so be sure to do this first. Later on you'll also want to turn on Brief Prompts, but at first you'll want the extra information you get from the verbose prompts.

The second thing many users will want to do is type GUIDE at the main prompt. This gets you into an extensive on-line guide for using the Forum.

Also visit Apples Online, which has a section introducing MAUG. It explains the different components of the Forum and how to use them. Of course, after reading this article you may not need to do all this.

THE MESSAGE AREA

The message area is the heart of a Forum. It's where members leave messages for each other, and read the messages others have left. It is like a bulletin board in that everyone can read the messages that have been posted.

Like many bulletin board-type systems, the message area is divided into different sections (subtopics) so you can only read what interests you. To set which subtopics you want to be able to read, type OP at the Function: prompt and then select SU at the option prompt, and you will get a list of the available subtopics. An asterisk in front of a name of a subtopic indicates that you want to read that subtopic. If there are any you don't want to read, type the number and the asterisk will go away. If you make a mistake, type the number again, and the asterisk will come back. When you are done, the topics you are interested in should have asterisks in front of them. On the MAUG Forums, always set Subtopic 0 (Forum Business) as one you can read, as that is where important announcements are left. Subtopic 6 on all the MAUG Forums is Community Square, where noncomputer messages are left (jokes, fun, other topics than computers). You may or may not want to read these. It is part of what makes MAUG a community, but it can also get quite frivolous.

After you've set up for the subtopics you want to read, it's time to go read some messages. The first time you get on, or if you've been away for some time, there are hundreds and hundreds of unread messages. This can be quite overwhelming. For such occasions, there is the QS (for QUICK SCAN) command that will give you a list of message numbers with their Subject: fields, and how many replies (if any) they have. Then you can use RI 1234 (for READ INDIVIDUAL message number 1234) at the *Function:* prompt. If the message has replies, you will be told after the message is displayed and you can type RR (for Read Replies) at the read action prompt to read them all. There is another command that can be used to read a message and all of its replies, but first some definitions are needed.

What makes CompuServe Forums special is that the messages are linked together in "threads" of related messages. If you leave a message and someone replies to you using the RE (for REPLY) command, the two messages are linked. There are some very interesting facilities for tracing up and down the threads. When you are reading messages in thread order, the system shows the thread to you in hierarchical fashion (top down, left-to-right). The first message is displayed. Then its first reply. Then that reply's first reply. (We're going from the top down.) Then when it gets to a message that has no replies, it goes to the last message we came down through that had a second reply (which is listed to the right of the first reply) and starts going down again. You can also go up and down threads yourself with some of the commands described in the Command Summary.

Let's go back to the example where you scanned for messages of interest. If you saw a message with replies that interested you, you could type RT 1234 ONLY at the *Function:* prompt to see message 1234 and all of its replies. This technique has another advantage: it updates your high message counter, which RI does not. What is this counter, and why is this important? The high message counter remembers the highest numbered message that you have read. Then, the next time you logon, you can use RN (READ NEW) or RTN (READ THREAD NEW) to read only those messages left after the highest message you've read. This way, by logging on every few days and doing an RTN, you can keep up with every-

COMMAND SUMMARY

To get to the MAUG Forums:

GO MAUG - goes to the menu page
GO AOL - goes to Apples Online magazine
GO MACUS - goes to the MacUsers Forum
GO MACDEV - goes to the Apple Developers Forum
GO APPLE - goes to the Apple II and III Forum
GO APPUG - goes to the Apple Users Group Forum

To read messages, at the Function: prompt:

RF - Read Forward
RR - Read Reverse
RI - Read Individual message (does NOT update your high message counter)
RN - Read New (forward)
RM - Read Marked messages (either marked by the system when addressed to you or marked by you during an SM - Scan and Mark - operation; does NOT update your high message counter)
RS - Read Selective messages - lets you search through the messages for character strings in the TO, FROM, or SUBJECT fields, such as your name in the TO field in case someone left your userid off a message (DOES update the high message counter)
RT - Read in Thread order
RTN - Read in Thread order New messages
RT nnnnn ONLY - Read the Thread starting at message nnnnn ONLY (do not continue after that particular thread has been read - DOES update the high message counter)

To maneuver in threads, at the Read action: prompt:

RR - Read Replies
RA - Read the message just read Again
RP - Read the Previous message in the thread (the one the current message replies to)
RT - Read the entire Thread that this message is part of starting with the top message.

To leave a message: At the Read action: prompt:

RE - REply to the person who this message is from and attach it to the thread
UA - Use the Address in this message to send a message to who this message is FROM, but start a new thread (change the subject)
RE nnnnn - REply to message nnnnn (very handy if you want to reply to a message you saw earlier).

At the Function: prompt:

RE nnnnn - REply to message nnnnn
L - Leave a new message. Remember that the system keeps track of people by userid, not name, so be sure to include it.

DL Commands From the DL: prompt:

SCA - SCAn the database in userid order
BRO - BROwse the database in reverse chronological order, pausing after each entry
REA - REAd a text file
DOW - DOWnload a file using a protocol (normally XMODEM)

Modifiers:

/KEY:xxxxx - restrict the SCA or BRO to files with keyword xxxxx
/DES - show the DEScription with the file (makes SCA into a non-stop BRO)
/AGE:n - restrict the SCA or BRO to files uploaded in the last n days.

CO Commands (must start with a / at the left margin):

/HELP - find out the other commands
/EXIT - return to the message area
/UST - find out who's in the Forum
/STA - find out how many users are on which CO channels
/TUN n - move to channel n
/MON n - monitor channel n while staying on the current channel

thing going on on MAUG very easily. (The reason it needs to be every few days is that each Forum has a limited number of messages, and as new ones are left old ones are erased. The number of these message "slots" is only enough for a few days' worth of messages.)

Don't worry if you're feeling a bit overwhelmed by all these commands. They're logical, and you'll get used to them. And you can always type a ? or HELP at any prompt to find out what your available options are. If that's not enough, there are more help files in the Data Libraries. What's a data library? Read on.

THE DATA LIBRARIES

The Data Libraries of a Forum are where files are kept for downloading to your computer. Most of the huge amount of free (and shareware) Mac software finds its way to the MAUG data libraries. You'll find *MacPaint* and *MacDraw* artwork, music for *ConcertWare*, *MusicWorks*, and other music programs, game scenarios for games like *Pinball Construction Set* and *The Ancient Art of War* and BASIC programs. All you have to do is get it to your disk.

The Data Libraries of MAUG correspond to the message sections. Subtopic 4 is Games; so DL4 is for Games. Subtopic 7 is the Art Department, so DL7 is where you'll find artwork, fonts, and the like. Your first stop should be DL0, because that is where the help files are.

To get to a particular data library just type DLn (where n is the number of the Data Library you want to go to) at the Function: prompt. The important commands are SCAn, BROwse, REAd and DOWnload. Type SCA to get a list of the files in the DL you're in. Be forewarned that there are *lots* (thousands in some cases) of files in most of the DLs. Type BRO to browse backwards through the files, looking at the most recent first, and with a description of what each file is. You'll notice during a BRO that there are Keywords associated with each file. You can use these keywords to search for specific files. In DL7, you may only be interested in *MacDraw*-

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THOROUGHLY MODERN MAUG

related files, so you'd type BRO/KEY:MACDRAW. Or maybe in DL5 you're looking for *ConcertWare* music, so you'd try a SCA/KEY:CONCERTWARE. In DL0, you'll be looking for help files, so try BRO/KEY:HELP.

Once you've found a file of interest, you want to get it to your computer. There are two kinds of files in the Data Libraries: text files and MacBinary files. MacBinary files are in a special format that must be downloaded using a protocol like XMODEM. If your terminal program supports MacBinary, the downloaded file will appear on your disk exactly like it did on the disk of the person who uploaded it, just as though you had copied it disk-to-disk using the Finder. MacBinary files are easily spotted because in the file header line of a SCAn or BROwse, the filename appears, then the date it was uploaded, then the filesize in bytes (characters). For a MacBinary file, *two* size numbers appear like this: 12345(6789). The number outside the parentheses is how much space the file takes up on CompuServe, and the number inside the parentheses is how many characters will be transmitted if you DOWnload the file. If the file does *not* have a second number in parentheses, it is an ordinary text file.

The help files are all ordinary text files. You can just REAd them, and they print out on your screen like a message would. Most terminal programs have a feature variously called ASCII text capture, text capture or save screens to disk. This is how you save these files on your disk. Later, you can use a text or word processor to read them. The first file you want to REAd is MACBIN.HLP, which explains a lot about how to use MacBinary, or BINHEX.HLP, if your terminal program doesn't support MacBinary. If you're BROwsing, you can just type R (for READ) at the file disposition prompt (be sure to turn on your text capture mode before you hit RETURN). If you're at the DL0 prompt and not browsing, just type REA MACBIN.HLP.

After reading these files, MacBinary and downloading should make a little more sense. It's really not as hard as it sounds. First, you need to set up your terminal program for XMODEM (MacBinary XMODEM if available, but XMODEM in any case). There will be a Settings menu or File Transfer menu item for doing this. Then, after finding the file you want to download, tell CompuServe to start, either with a D at the file disposition prompt during a BRO, or by typing DOW FILEN.AME at the DL prompt. CompuServe will ask what protocol to use; select XMODEM. Then CompuServe tells you to type a carriage return when the transfer is complete. When you see that message, it's time to tell your terminal

FOR MAUG VETERANS

Here are some hints and tips for you diehard MAUG vets out there.

Reply (RE) to any message at a message disposition prompt. Instead of just RE, type RE 1234 to reply to message 1234. You will even be shown the header of the message to be sure you got the right one.

Read any message on the board, even when in the middle of a Read Thread. Do an RE 1234 as above, end the message immediately with a RETURN (or /EX if you use Filge), and at the Reply action prompt type RA, and you can see the message. If you then want to reply, back at the Read action prompt type C (for continue); if not, type A for abort. After you're done you'll return to your Read Thread.

To be sure your high message counter is set properly, you need to exit from the Forum message area. If you leave from CO or from the DLs without first returning to the message area, your high message counter will not be saved. This can be used to your advantage if you've had to break off a Read Thread near the beginning. Just run to the DLs and logoff from there, and your previous counter will be preserved.

You can get SENds when you're in CO. Normally senders will receive a "That job is busy!" message, but if you /SENd to yourself once in CO, you will be able to receive SENds. (This is also a way to have a private chat while in CO without missing the action the way /TALK does. Just be sure to remember the /SEN at the beginning of each line or everyone will see what you're saying!)

program to start the XMODEM download.

There is a veritable treasure trove of files in the DLs, and many MAUG members spend most of their time there, only occasionally leaving a message. In June, Apple Computer licensed several information services, including MAUG, to distribute updates to Apple System software (*System, Finder, ImageWriter,* etc.) and some of these files can be found in DL1 of MACUS and all of them in DL8 of MACDEV (read the text file SYS.INF in DL8 of MACDEV for full details).

That's all there is to it! Well, not all, but if you read the file MACBIN.HLP in DL0 you should be pretty well set. And if you have problems, ask the sysops. Follow the procedure for leaving a membership request: type L, respond SYSOP when asked for *To*; respond with something like HELP or DOWNLOADING when asked for a *Subject;* then type your message (no blank lines, since that tells the editor you're finished, and remember the RETURN every 70 or 80 characters); then at the *Leave Action* prompt type S (for Store), and when asked what section, enter 8 (that is the Telecommunications section, where downloading questions belong), or type S8 at the *Leave Action* prompt.

CONFERENCING

All that's left is the conferencing area, or CO. Each Forum has a special area called CO that you get to by typing *CO* at the Function prompt. You can find out if the trip into CO is worthwhile when you first enter the Forum: the number of people in CO is indicated.

Once in CO, normal commands stop working, and everything you type gets sent to everyone else in CO with you. So remember that /HELP will get you help and /EXIT will get you back to the Forum. The / is important, and *must be* at the left margin to work.

When you first come into CO, you're welcomed to a particular channel, and then shown which channels have people on them. Ordinarily you will enter on Channel 30,

(continued on page 162)

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SQUARE

Archon's charge of the Light (and Dark) brigades.

HAVE YOU EVER SEEN A LIVE-action chess game, where people actually playing the roles of the pieces move around on a huge board? Computer game designer John Freeman has. He's even participated in them himself. That was what first gave him the idea behind *Archon*.

This strategic challenge of wits combines elements from chess and Capture the Flag, with a dash of medieval mythos thrown in for good measure. Think of *Archon* as a live-action chess game in which the opposing sides have to fight for possession of the individual squares. It brings a certain wild card element into play, meaning that you can never be *positive* that a specific move will work as it should.

AND ON THIS SIDE...

Each army is different, but equal. For example, the light Knights and the dark Goblins both function much the same way that chess pawns do, moving a single painful step at a time. During battle sequences, both the Knight and the Goblin must get up close to the opponent in order for their swords or clubs to inflict any damage. The light side's Phoenix and the dark side's Banshee each fight by producing a damaging cloud around their bodies. The Phoenix uses fire and the Banshee uses her wailing voice, but the effect is the same.

IT'S MAGIC!

In the same vein, the Wizard and the Sorceress (each sort of a combination of a chess game's king and queen) may look different, but their powers are exactly equal. Each can be used by the player to cast a spell in lieu of moving a piece somewhere on the board, but each type of magic spell can only be used once per side, per game.

The magic includes:

- Healing a soldier wounded in a previous battle (all game characters heal on their own during the course of the game, although they heal faster if they occupy a power point).
- Resurrecting a dead character. Newly resurrected characters must be placed on a square adjacent to the Wizard or Sorceress, but they can be moved on the next turn, if you wish.
- Summoning an elemental. This creates a completely new character

N G - O F F

which battles for your side like any other soldier. The type of elemental summoned — wind, fire, air or water — is random, and seems to be more for show than for strategic difference. Elementals can attack another character on the board (except those which occupy power point squares), even those far out of reach of normal characters.

- Reversing the flow of time. This means that if gray squares are supposed to be cycling to white, they'll reverse and cycle back to black instead. This is particularly useful when you want to hold a strategic advantage, and even more useful for negating the same spell when it's been cast by your enemy.
- Imprisoning an enemy on a square. This is useful for trapping powerful dark characters on light squares, or vice versa. This makes them relatively easy pickings, and keeps them from attacking your army, to boot.
- Teleporting a selected character to another square on the playing field. Use this when you want to launch a sneak attack — or to finish off a character you previously only wounded.

Magic doesn't work on any character currently occupying a power point square. This has strategic ramifications, since, for example, it means you can't heal a character that was badly wounded capturing a power point — unless you first move the icon off the hard-won square.

FIVE POINTS TO POWER

The ultimate object is to possess all five of the board's flashing Power Points, which are strategically located on the game board. Three of these start out unoccupied; the other two are the Wizard and Sorceress' starting position.

The game's real strategy is in figuring out when to battle for which square. Light characters have longer life lines (and therefore, can take more damage from opponents) on white squares, while followers of the Dark side are more effective on black squares. Many of the squares on the board are permanently black or white. The remaining areas of the board consist of ever-shifting squares that cycle from light to light gray to dark gray to black to dark gray, etc. Three of the power points are located on shifting squares,

by Tracie Forman Hines

SQUARING OFF

meaning that the tides can turn as time goes by.

FIGHTING TO THE FINISH

Whenever a character is moved on to an occupied square, the screen zooms in and a battle begins. The two monsters literally duke it out for possession of the territory, dodging each other's attacks by moving around barriers that materialize and disappear almost at random. Once opponents engage in battle, only one will survive the round.

In its one-player mode (human player versus the computer), the player has the option of moving his or her own soldier with the mouse during battle sequences, but the computer is a formidable opponent, and it doesn't help matters any that the mouse is far less than the ideal control method. The key to real combat success is being able to quickly dodge, jerk and change directions abruptly, which confuses opponents and makes their missiles less likely to strike home.

There are two ways around this: either buy yourself a Mac-compatible joystick, or play with the Cyborg option on. This gives the computer control over your forces as well as its own during the fight sequences, meaning that you'll at least have a fifty-fifty chance of winning. Don't worry about changing your mind, even midway through a game — before each fight sequence, a screen prompt asks you to click the mouse button if you want to control your own character in that particular fight.

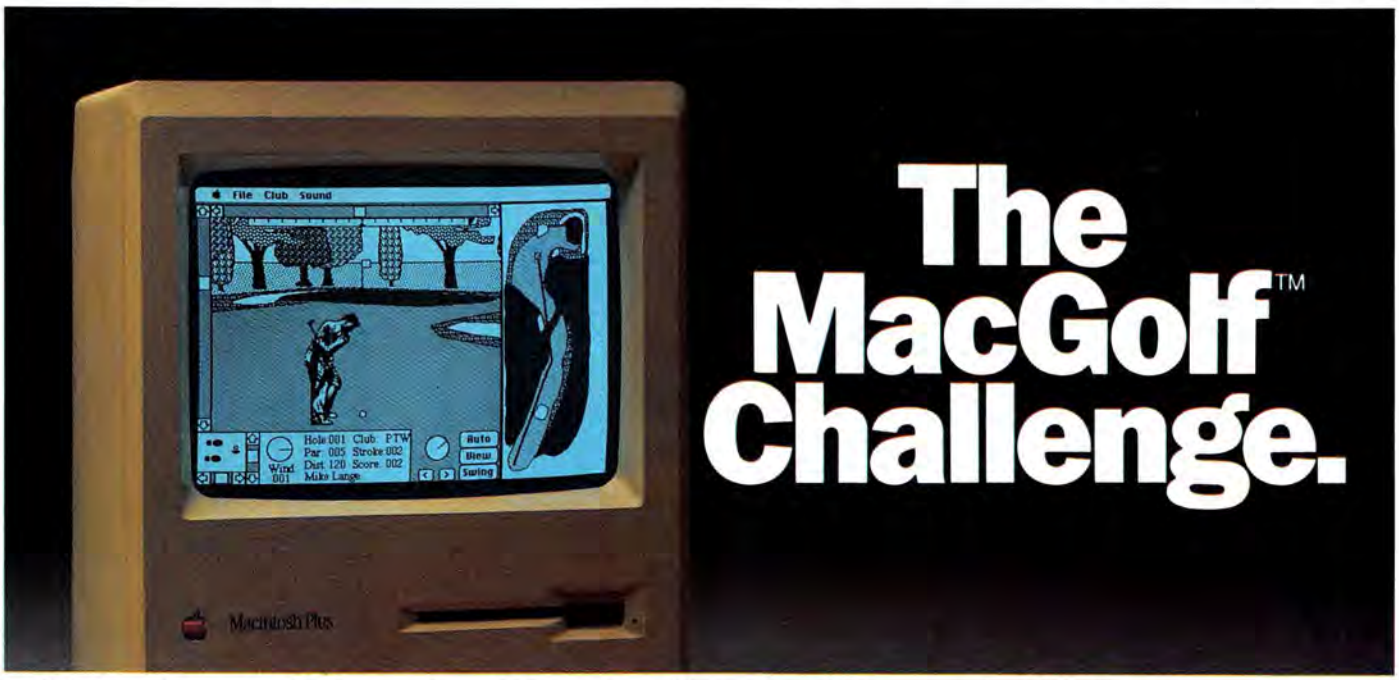
The two-player game gives one player control of the mouse during battle, with the opponent automatically playing in the cyborg mode. Unless you really want to handicap yourself or your opponent, though, it's best (and most evenhanded) to play with both sides using cyborgs.



The armies face off with relatively equal chances, thanks to the gray squares that keep sides even.



The balance of power has shifted to the Light, thanks in part to the board's cycling to white.



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SQUARING OFF



The forces are different but basically equal. From the top, Light: the Wizard, Knight, Phoenix, Archer, Unicorn, Golem, Valkyrie and Djinni. On the Dark side: the Sorceress, Goblin, Banshee, Manticore, Basilisk, Troll, Shapeshifter and Dragon.

THE LIGHT AND DARK OF IT

Having been designed in shades of black, white and gray, *Archon* is a graphic natural for the Mac — or at least, it should have been. Unfortunately, the game's graphics weren't redesigned to look any sharper than they did on the old 48K Atari or the Commodore 64 (in other words, they're barely fair by Mac standards). Considering the Mac's resolution, it wouldn't have hurt to dress up the opposing armies a bit — add a little detail to the knight's shield, perhaps, but the sound effects that accompany each different character make up for any visual deficiencies. The Banshee's scream and the twang of the archer's bow sound with equal realism, and the animation during the battle sequences is humorous.

Archon is a good diversion for solo players, but it's during head-to-head combat that the game really shines. It even allows very good players to handicap themselves (by using the mouse against the other player's cyborg control), although when both players' skills are about equal we recommend that both use the cyborg control. *Archon* may not shine as an action game, but its strategic challenge will keep players flexing their mental muscles for some time to come.

Tracie Forman Hines is the Senior Editor of MacUser.

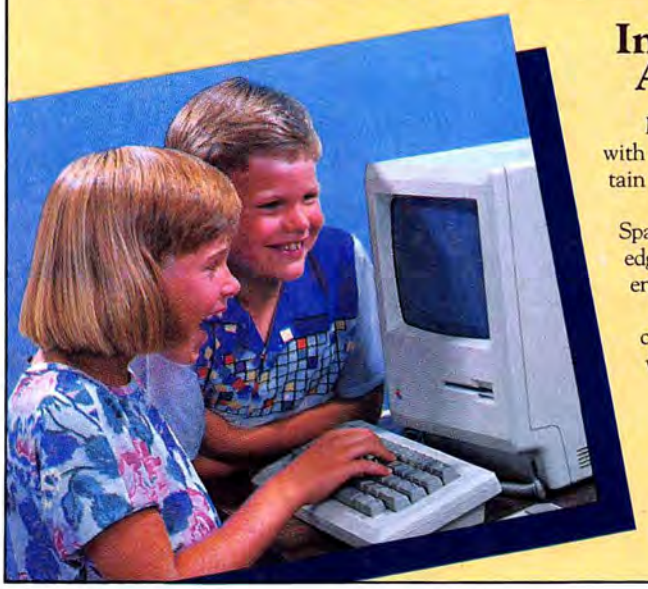
ARCHON

Overall Rating	■ ■ ■ ■ □
Follows Mac Interface	■ ■ ■ ■ □
Printed Documentation	■ ■ ■ ■ ■
On-Screen Help	■ ■ ■ □ □
Performance	■ ■ ■ ■ □
Support	■ ■ ■ □ □
Consumer Value	■ ■ ■ ■ □

Comments: Unique strategy game for one or two players that borrows elements from chess and Tolkeinish mythos in equal doses. **Best Features:** Thinking is required; one-or two-player modes; good sound effects. **Worst Feature:** Graphics should have been redesigned to suit the Mac's resolution. **List Price:** $44.95. Published by Electronic Arts, 2755 Campus Drive, San Mateo, CA 94403, (415) 571-7171. Copy protected.

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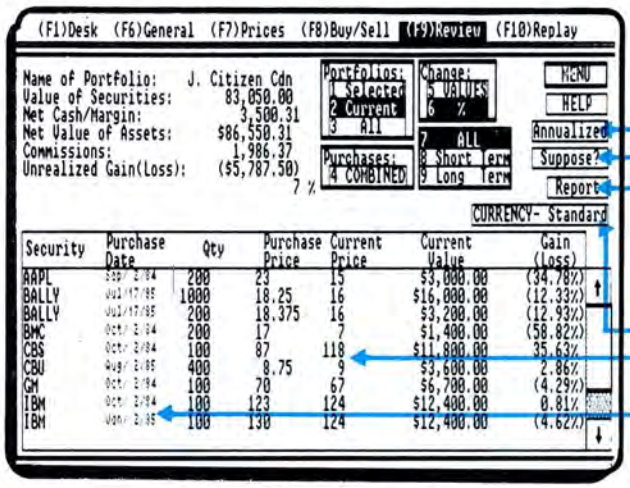
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A PLAY ON



by Ted Salamone

A word from the wise on the best of Mac word games.

WHAT'S THE GOOD WORD? THAT all depends on which word game you're playing. According to ancient legend, the first word game was created by Attila the Hun, when he and his fellow barbarians forced illiterate serfs to guess which words were being spelled out on the ground. The game, named to match the result, was Hangman, and the rest is history.

Computer word games have been around almost as long as computers, and the Mac is no exception. Here, we highlight some of the best of the bunch, not necessarily guaranteed to increase literacy, but definitely guaranteed to spell out a good time

MAKE YOUR OWN MINDBENDER

WordPlay, the crossword puzzle generator and solver from Palantir Software, comes equipped to take on any challenge, even the New York Times' Sunday crossword puzzle.

Though marketed as an educational program, *WordPlay* is so versatile it should also be considered pure entertainment. Whether you use it to solve published puzzles or create your own, *WordPlay* has no equal, on any system. It even allows you to create diagramless puzzles.

Trial and error has never been easier; the program enters guesses as italics to differentiate between maybes and sure things. Erasing mistakes doesn't tear the "paper," either. Correct guesses are permanently inscribed with a single click.

A 16-page manual introduces *WordPlay,* explaining its five levels of difficulty, online help and other options. Most functions are clearly and simply explained, though puzzle creation is a complex procedure, so be sure to pay close attention.

After using it for a short time, a few things become apparent. While *WordPlay* uses the mouse and keyboard in tandem, cursor control takes practice. Answers for complete puzzles or selected areas can be shown, with question marks appearing to identify incorrect entries.

You have a choice of fonts for output; puzzles can be printed in any stage of development, blank, work in process (completed sections printed), or solved. When needed, clues may be output along with their puzzles; or to prevent accidental sightings, you can print the "detective food" on different pages.

Puzzles ranging from 4 to 23 squares per side are possible. Two viewing options are available. If a puzzle is larger than the normal window allows, scroll to see the balance or remove the full clue listing and expand the window.

Completing puzzles requires a little discipline. You must enter all the answers first, then the clues. If you do not adhere (religiously) to this fact of life, layout alterations will upset the relationship between clues and squares. In other words, the clue for 3 Across might be inadvertantly rearranged so that it now seems to correspond with 7 Across.

Clue entry is a simple procedure. Click on the desired square, move the cursor and click on the clue box. Forgetting the last step causes clues to overwrite solutions. One major deviation is allowed. Instead of filling in all the Across clues before proceeding to the Downs, you may alternate.

Even though most puzzles have semi-cryptic clues, *WordPlay* allows plenty of room for lengthy clues. Used wisely, the extra space can make the contest more challenging. Use double entendres, vague, misty tips, and even poetical excerpts or constructs.

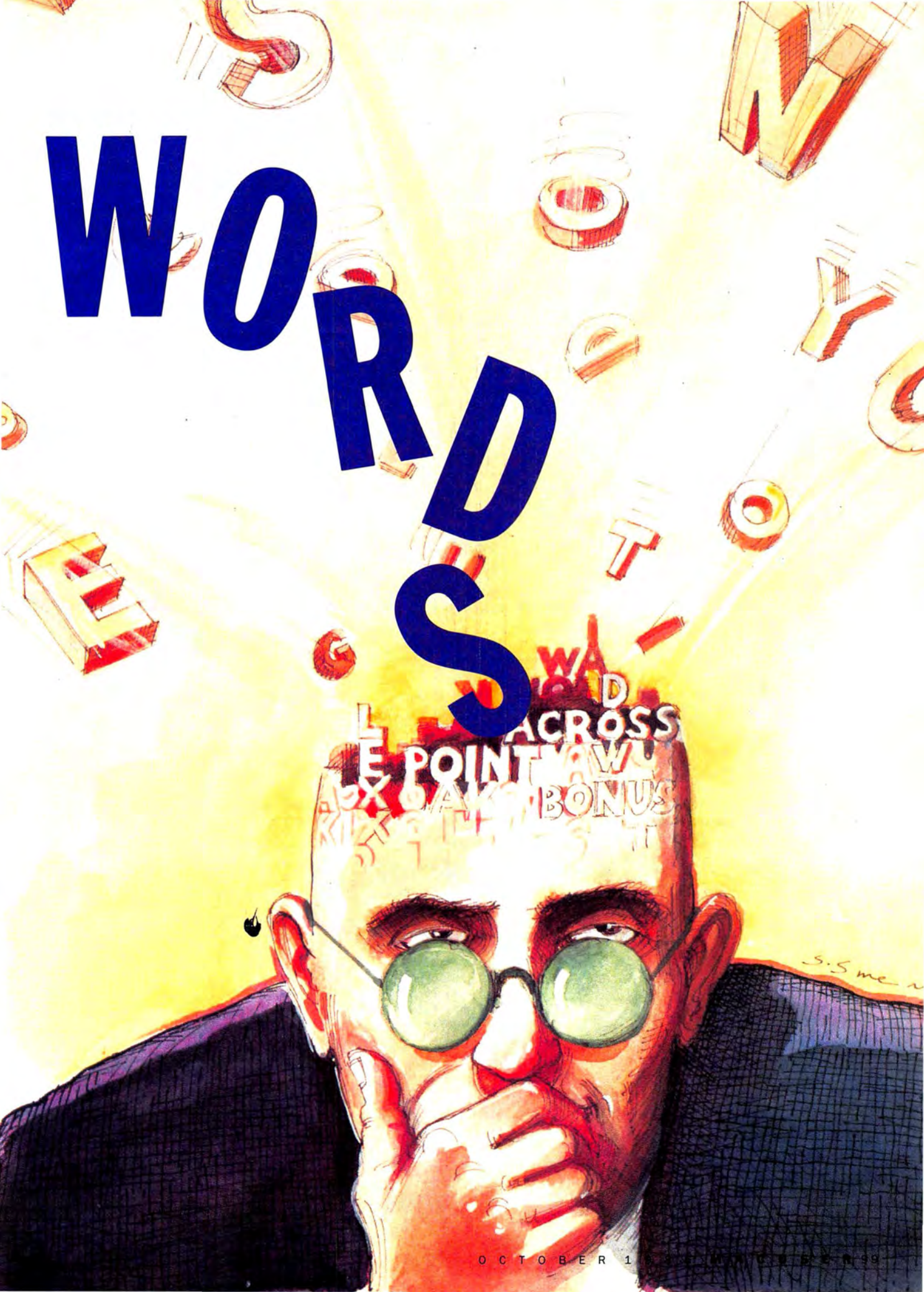
Despite all the good news, *WordPlay* does have a few puzzle construction quirks. While entering clues, avoid touching the OPTION key, since if you press it instead of SHIFT you'll hear a beep indicating the clue has not been accepted. Before proceeding, reset the keyboard by clicking on another area or rapidly depressing the SHIFT key.

The second problem crops up when trying to select a solution square prior to clue entry. Sometimes the leftmost squares in a puzzle won't accept click commands. The solution is easy enough though; merely click on the second letter in a solution. From there everything works normally.

Since these minor rough spots are easily circumvented, *WordPlay* rates high in all categories: education, entertainment and error handling. While completing the built-in puz-

STEPHEN SWENY

WORDS



A PLAY ON WORDS

zles is good fun, creating them is even more fantastic. Pride of authorship shows through. You'll really enjoy watching others try to solve your homebrewed puzzles with a professional appearance.

TAKE THE CHALLENGE

Spinnaker-Hayden's *Word Challenge II* is a *Boggle* work- and lookalike. Just like its Parker Brothers' inspiration, the object is to uncover as many words as possible using adjacent letters randomly arrayed on a grid.

Despite the similarity in names, *WC II* is a significant improvement over its original incarnation, *Word Challenge I*. The addition of mouse based word entry fully utilizes the Mac's intuitive play action. Just click and drag, highlighting letters in the process. Releasing the mouse button enters "selected" words into a score-keeping window. Letters may also be deselected by backtracking along the original path.

While this may not appear to be a major breakthrough, keyboard freedom is important for slow or poor typists. In *WC II*'s timed environment speed is of the essence. Mouse maneuvering reduces the edge LEX (the game algorhythm you're actually playing against) has when kicking keycaps. (Touch typists can still use the keyboard.)

Word Challenge II is pretty much mix and match software. All game options are redefineable through pull down menus. Pick a difficulty level from A (hardest) to Z, choose from three board sizes (3 x 3, 4 x 4 or 5 x 5), and set the individual game time from 1 to 999 seconds.

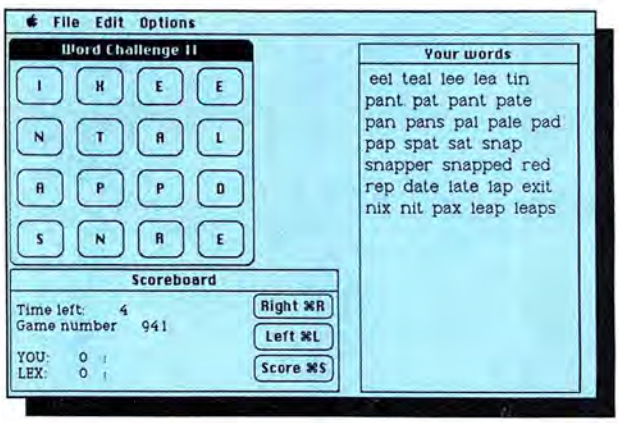
Users may also define match point (from 1 to 999 points), toggle the sound effects on or off, get automatic credit for embedded words ("are," "found," "in," "rare," "is," etc.), or create boards through manual letter entry.

Even the scoring may be tailored to suit personal tastes. For purists, one of the five options matches the scoring system used in *Boggle*. The others address the realities of different size boards or the size and complexity of discovered words. Under no conditions are points awarded for one- or two-letter entries.

The LIST ALL WORDS option displays every possible combination on a board during the scoring. It's amazing (and sometimes demoralizing) how many words show up after you're dead certain there are no more. Viewing all the possibilities isn't really cheating; most people won't be able to remember where they saw something because there are 65,536 unique boards per puzzle size!

A competitive play mode addresses the human versus computer only capability of *Word Challenge II*. (The limitation is inherent in the nature of the game, not the software). By playing LEX, the program's 90,000 word adversary, at the same difficulty level each time, the computer's responses will be the same for identical boards. People taking turns playing against LEX under these circumstances (difficulty level and game number) engage in indirect competition to determine a head to head winner.

The letter grid sits over a scoreboard displaying a running numerical account of the possible words and score as well as the current game and total scores, all updated on a word for word basis. A window on the right displays legal words and the party receiving credit.



How many words can you find in these letters before the timer runs out? The window at right keeps track of completed words in *Word Challenge II*.

Despite the large dictionary, *WC II* does not know all legal possibilities. After the automated scoring process you are given the option of reviewing or bypassing unknown words. Reject or accept them on a one for one basis, thereby compensating for finite memory restrictions.

Depending on the match point level, several games will probably comprise a set, leaving room for strategic and tactical maneuvers. On the tactical level, proper names and geographic locations are accepted; use of embedded words keeps game times reasonable.

Strategically speaking, 300 to 360 seconds are needed to build words of five letters or longer on a default (4 x 4) grid. Add another 30 to 45 seconds for larger grids. Change difficulty levels between games to keep the game interesting. Don't try for a lot of exotic words, key in on the most frequently used letters, a, e, i, l, n, o, r, s, and t. Look for variations of base words, building longer ones in the process.

While *Word Challenge II* ran smoothly, there are still a few areas open to improvement. When using the embedded word feature be careful to spell the "superset" word correctly, or there'll be no credit for "subset" words, even if they're spelled correctly!

The on-screen timer counts down when not selecting letters. When the mouse button is depressed the timer freezes, making it appear as if time has ground to a halt. That's not the case, so don't select a letter while searching the grid for possibilities; you'll only be fooling yourself.

Because matches may take 30 minutes or longer, *WC II* needs a pause provision for interruptions during individual games. Phone calls and ringing doorbells can spell disaster to any game, perhaps throwing an entire match in jeopardy.

So there are a few annoyances. That's true of most software. If you can live with them, then the software

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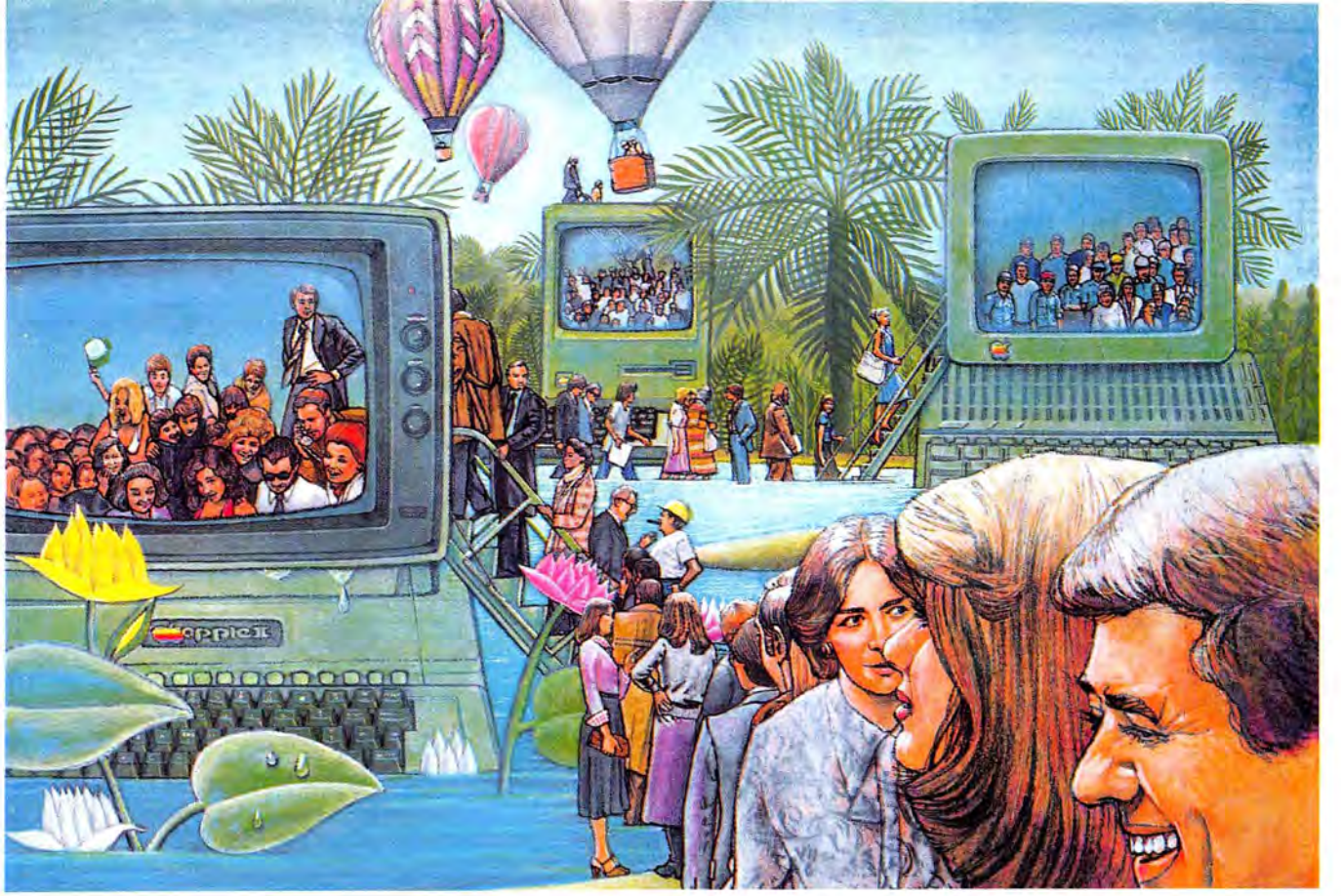
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serves its intended purpose. Such is the case with *Word Challenge II*. Whether used for *Boggle* practice, as a *Boggle* replacement, for education or entertainment, *Word Challenge II* is challenging, refreshing and stimulating.

CONFUSING? NO, PERPLEXXED

Spinnaker-Hayden has another "wordy" offering for the Mac. Entitled *Perplexx,* this *Scrabble* look and play alike also pits wordmasters against a computer foe named Lexx. Only this time it must be *Word Challenge*'s cousin or something, because this Lexx spells its name differently. It has the same 90,000 words, though.

Perplexx goes beyond *Word Challenge II* in one significant area, allowing up to four players per game. This extra dimension of human competition heightens the program's enjoyment value, and, for my money, is the best way to play *Perplexx*. It works on a 128K Mac, but 512K is needed to access the standard desk accessories. (This, and the others reviewed here,work flawlessly on the Mac Plus as well.)

Even though *Perplexx* can play like *Scrabble* the default settings are plain vanilla; a 13-by-13 grid without bonus squares and six letters (tiles in Scrabblese) per rack, played at the easiest of four difficulty levels.

Basic similarities include two wild card tiles (visualized as asterisks), the ability to pass or trade in tiles, and the vertical/horizontal layout of the proceedings.

If enjoyment is the end product of *Perplexx,* and it is; then its byword has to be flexibility. Board sizes, bonus square placement, difficulty level selection, the setting of match point, the number of occurrences per letter and the value assigned to each are all user defineable.

Games and board formats may be saved for later recall, boards of 11 by 11 or 15 by 15 squares are also possible. The number of tiles per rack ranges from five to seven, while bonus square options include double and triple letter and double and triple word. Don't let the seeming complexity and array of options intimidate you, sophisticated *Perplexx* boards take but a few minutes to design.

Besides bonus squares, additional points are awarded for players using all their letters in a single round or using the last letter in a game. Points for pieces not used at the end of a match can be added to the score of the player (if any) who used all of his/her pieces in winning the match.

Matches end in one of two ways, on the first empty rack or when all players are finished; that is, they can no longer produce legal words. The choice is up to you.

The player with the highest remaining score (after residual rack points are subtracted) wins unless a match score has been set. If one has, then the first player to reach the goal wins. Further refinements are possible.

Perplexx also takes a leaf from the book of computer chess. The MOVE MASTER option makes it child's play to take moves back, replay single moves, or replay all moves (taken back). This option is useful when developing or studying tactics and strategies. Along similar lines, Lexx will make moves for every player or provide hints; all you have to do is ask.

When playing against others, the contents of individual racks may be hidden from view. If desired, Lexx's tiles and the search process it uses to determine the best entries can be displayed. Despite the fact that Lexx takes longer to move at higher difficulty levels, it can be forced at any time by clicking on the HALT SEARCH button. By now you understand, *Perplexx* configurations are near limitless.

Scrabble afficionados already know the tricks of the trade, so the following tips are for those unfamiliar with either game. Place words to take advantage of bonus squares; conversely, play to deny the bonus multipliers to others. Make multiple words in a single round through shrewd placement of key letters. Oftentimes two or three small words created in this fashion count for more than large words which also provide opportunities for the competition.

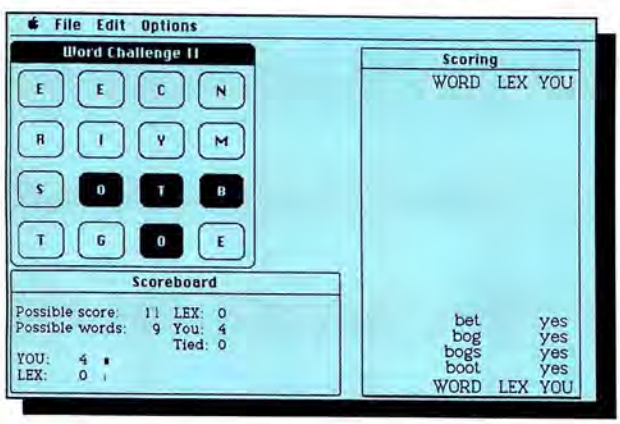
Pass to prevent giving others a crack at bonuses or to swap rack tiles for ones in the kitty. Big plays often come by merely adding "s," "d" or "r" as suffixes. Short prefixes, such as "re," help the cause too. As Lexx only plays one turn deep, look further ahead. The rewards are phenomenal.

In use, *Perplexx* performs flawlessly. Pull down menus, windows, buttons, etc., all add up to a high comfort level. Speed of execution is acceptable for the most part, though there are times when it appears that the search routine has gone to sleep.

The point, click and drag method of placing letters is near foolproof. Through the same procedure, letters may be rearranged on the rack, providing valuable insight into potential entries.

The instruction manual is clear, concise and complete. The combination of excellent written instructions and the intuitive interface considerably shorten *Perplexx*'s learning curve. Consequently, the fun begins almost immediately.

Ted Salamone is a freelance writer and computer game afficionado.



After a round has been completed, you (and the computer) double-check each answer for accuracy.



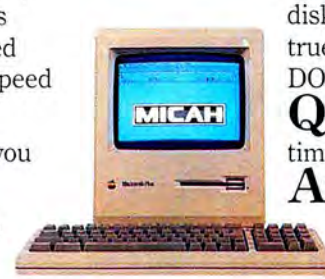
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GARY HOVLAND

THE SOUND OF PASCAL

Make your programs ring out with the sound of music.

by Steven Martin

IN THE FIRST TWO ARTICLES OF this series we found out how to set up a program using the Mac interface. We also examined the special event handling methods used by such a program, and now we'll see how we can add our own music routines. We'll use the Macintosh sound generator to create various types of music.

The Macintosh has three types of sound-generation techniques. We'll be working with two of them: square-wave and four-tone synthesis. The first is the simplest, and is used to create the normal beeps and bells that we hear from the Mac when it is turned on or when alert boxes are displayed. The square-wave synthesizer also can be used to create simple, one-voice musical tunes.

To produce tones with the square-wave synthesizer we utilize a predefined record type called SWSynthRec, which is defined as:

```
SWSynthRec = Record
Mode:Integer;
Triplets:Tones;
End;
```

Mode is an integer that acts as a flag for the Macintosh music generator routines and tell it which type of synthesizer technique to use. There are three predefined constants for the three types of synthesizers: swMode (equal to –1 for square-wave sound), ftMode (equal to 1 for four-voice sound) and ffMode (equal to 0 for free-form sound).

The type Tones is an array of 5001 predefined records of type Tone:

```
Tone = Record
count: Integer;
amplitude:Integer;
duration: Integer;
End;
```

Count is the frequency of the tone to be played, amplitude is the height of the square-wave (in the range 0 to 255 only) and duration is the amount of time that the tone will play in ticks (1/60th of a second).) Count is not an exact musical frequency, but the actual frequency in Hertz (Hz). It can be calculated by the formula:

Frequency = 783360/count

Inside Macintosh contains a table of the values for count that will produce various notes from the musical scale.

In order to play a square-wave tune we fill an array with each of the notes and then call StartSound with a pointer to the array. Unfortunately, the Tones array, which is predefined, is set to 5001 elements, and is terribly inefficient with memory, especially for short tunes. Therefore, our program uses a technique for dynamically creating the elements of the array. This can be done since the StartSound routine automatically stops when it finds an element with zero for the count, amplitude and duration.

The StartSound procedure takes three parameters: a pointer that points to the sound buffer in use, a LongInt that holds the size of the buffer in bytes, and a ProcPtr that points to the procedure that SoundPtr should call when it has finished a sound. The last item is primarily meant for use with programs that will make sounds while other things are still going on. For this example, we will pass Pointer (–1) as the ProcPtr to tell StartSound that we don't have a completion routine. Note that the first parameter is a generic pointer (Ptr) so that we may pass any one of the three Mac synthesizer record types by using type coercion.

FOUR-TONE SYNTHESIS

The four-tone synthesizer is a bit more complex to use than the square-wave, but it allows us to play music with up to four parts of harmony. For our example, I have selected Bach's famous Crab Canon, which has two parts. This piece is particularly interesting because the harmony for one voice is simply itself played backwards. Thus we need only define half of the tune and then define the second half by reversing the first part.

A four-tone synthesizer record is defined as:

```
FTSynthRec=Record
mode: Integer;
sndRec:FTSndRecPtr;
End;
```

The mode flag is set to 1 (defined by the constant ftMode). FTSndRecPtr is a pointer to a four-

THE SOUND OF PASCAL

tone sound record defined as:

```
FTSoundRec=Record
duration:Integer;
sound1Rate:Fixed;
sound1Phase:LongInt;
sound2Rate:Fixed;
sound2Phase:LongInt;
sound3Rate:Fixed;
sound3Phase:LongInt;
sound4Rate:Fixed;
sound4Phase:LongInt;
sound1Wave:WavePtr;
sound2Wave:WavePtr;
sound3Wave:WavePtr;
sound4Wave:WavePtr;
End;
```

Duration is the length of the tone in ticks, Rate defines the frequency of the particular note, Phase defines where in the wave the tone is to begin, and Wave is a wave pointer to the structure:

Wave=Packed Array[0..255] of Byte;

We define a wave by setting each byte in the Wave array to a value that will correspond to the amplitude of the speaker. In the exampe, we set a simple square-wave for both voices. A table of values for notes or the four-tone synthesizer is also included in *Inside Macintosh*

When calling StartSound with the four-tone synthesizer, unlike the square-wave synthesizer, only one note at a time is passed, so we must

MUSIC IN PASCAL

Listing 1: The routines for our demonstration

```
Procedure PlaySWMusic;
Const
 buffSize = 512; {Adequate for 512/6 = 85 notes}
Var
 SoundPtr:   Ptr;
 SoundHandle: Handle;
 SoundSWPtr: SWSynthPtr;
 i:    Integer;
Begin
 SoundHandle := NewHandle(buffSize);
 HLock(SoundHandle);
 SoundPtr := SoundHandle^;
 SoundSWPtr := SWSynthPtr(SoundPtr);

 With SoundSWPtr^ Do
 Begin
  mode := swMode;

  triplets[0].count := 1484;
  triplets[0].duration  := 24;
  triplets[1].count := 1236;
  triplets[1].duration  := 24;
  triplets[2].count := 989;
  triplets[2].duration  := 24;
  triplets[3].count := 890;
  triplets[3].duration  := 24;
  triplets[4].count :=  1583;
  triplets[4].duration  := 24;
  triplets[5].count :=  1;
  triplets[5].duration  := 12;
  triplets[6].count :=  989;
  triplets[6].duration  := 12;
  triplets[7].count :=  1055;
  triplets[7].duration  := 24;
  triplets[8].count  := 1113;
  triplets[8].duration  := 24;
  triplets[9].count  := 1187;
  triplets[9].duration  := 24;
  triplets[10].count  := 1236;
  triplets[10].duration  := 24;
  triplets[11].count  := 1;
  triplets[11].duration  := 1;
  triplets[12].count  := 1236;
  triplets[12].duration  := 11;
  triplets[13].count  := 1319;
  triplets[13].duration  := 12;
  triplets[14].count  := 1391;
  triplets[14].duration  := 12;
  triplets[15].count  := 1484;
  triplets[15].duration  := 12;
  triplets[16].count  := 1583;
  triplets[16].duration  := 12;
  triplets[17].count  := 1780;
  triplets[17].duration  := 6;
  triplets[18].count  := 1978;
  triplets[18].duration  := 6;
  triplets[19].count  := 1484;
  triplets[19].duration  := 12;
  triplets[20].count  := 1113;
  triplets[20].duration := 12;
  triplets[21].count  := 1236;
  triplets[21].duration := 24;
  triplets[22].count  := 1319;
  triplets[22].duration  := 24;
  triplets[23].count  := 1484;
  triplets[23].duration  := 24;

  For i := 0 to 23 Do
  Begin
   triplets[i].amplitude := 25;{Max Amplitude}
  End;

  triplets[24].count     := 0;
   triplets[24].amplitude := 0;
   triplets[24].duration  := 0;

  End; { With SoundSWPtr }

  StartSound(SoundPtr,buffSize,Pointer(-1));
  HUnlock(SoundHandle);
  DisposHandle(SoundHandle);

End; { PlaySWMusic }

Procedure PlayCanon;
Const
 NumOfNotes = 136;{Number of notes in the Canon}
 FTBuffSize = 50;{size of an FTSoundRec}
 Quarter   = 40;  {duration for quarter-note}
 Eigth   = 20;  {duration for eigth-note}
Var
 i:    Integer;
 SoundPtr:   Ptr;
 Tune:   Array [1..NumOfNotes] of FTSynthRec;
 TunePtr:   FTSynthPtr;
 MyWave:   Wave;
 MyWavePtr: WavePtr;

Procedure SetUpCanon;
Var
 i: Integer;
Begin
{Set up a square wave for the sound generator}
 For i := 0 to 127 Do
 Begin
  MyWave[i] := 255;
  MyWave[i+128] := 0;
 End;

 MyWavePtr := @MyWave[0];

 {Set up Tune with the Canon}

For i := 1 to NumOfNotes Do
Begin
 Tune[i].sndRec := FTSndRecPtr(NewPtr(FTBuffsize));
 Tune[i].mode := ftMode;
 Tune[i].sndRec^.duration := Eigth;

 Tune[i].sndRec^.sound3Rate := 0;
 Tune[i].sndRec^.sound4Rate := 0;

 Tune[i].sndRec^.sound1Phase := 0;
 Tune[i].sndRec^.sound2Phase := 0;
 Tune[i].sndRec^.sound3Phase := 0;
 Tune[i].sndRec^.sound4Phase := 0;

 Tune[i].sndRec^.sound1Wave  := MyWavePtr;
 Tune[i].sndRec^.sound2Wave  := MyWavePtr;
 Tune[i].sndRec^.sound3Wave  := MyWavePtr;
 Tune[i].sndRec^.sound4Wave  := MyWavePtr;
End;

Tune[1].sndRec^.duration   := Quarter;
Tune[1].sndRec^.sound1Rate := $3095B;
Tune[1].sndRec^.sound2Rate := $3095B;
Tune[2].sndRec^.duration   := Quarter;
Tune[2].sndRec^.sound1Rate := $3095B;
Tune[2].sndRec^.sound2Rate := $3CBB2;
Tune[3].sndRec^.duration   := Quarter;
Tune[3].sndRec^.sound1Rate := $3CBB2;
Tune[3].sndRec^.sound2Rate := $48E09;
Tune[4].sndRec^.duration   := Quarter;
Tune[4].sndRec^.sound1Rate := $3CBB2;
Tune[4].sndRec^.sound2Rate := $612B7;

Tune[5].sndRec^.sound1Rate := $48E09;
Tune[5].sndRec^.sound2Rate := $5B18B;
Tune[6].sndRec^.sound1Rate := $48E09;
```

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loop through the entire array of notes until the tune is finished.

When using fewer than four of the voices with the four-tone synthesizer, remember to set the extra voices rates to zero, or you will hear odd pitched notes in your music set.

Listing 1 shows routines to play square-wave and four-tone music. It also includes a procedure that displays the title of the program inside the window. These routines should be added to the Shell program (*MacUser*, July and August 1986) just after the SetUpThings procedure. Note that the routine which displays the title in the window uses a picture handle to maintain the window's contents during updates. This is a method that can be used effectively when the window will contain simple drawings, and it allows the Window Manager to handle updating the contents.

To get the program to play the tunes when we want, we must add a menu selection to the Shell program. Listing 2 shows the changes to the FileMenu set up and Listing 3 shows the changes to the FileMenu case statement in the ProcessMenu_in procedure so that these items will call the correct music routines. Finally, Listing 4 shows the changes to the Main program block that displays the title in the window.

MUSIC IN PASCAL

```
Tune[6].sndRec^.sound2Rate := $612B7;
Tune[7].sndRec^.sound1Rate := $48E09;
Tune[7].sndRec^.sound2Rate := $6D50D;
Tune[8].sndRec^.sound1Rate := $48E09;
Tune[8].sndRec^.sound2Rate := $749A8;

Tune[9].sndRec^.sound1Rate := $50F98;
Tune[9].sndRec^.sound2Rate := $818F3;
Tune[10].sndRec^.sound1Rate := $50F98;
Tune[10].sndRec^.sound2Rate := $749A8;
Tune[11].sndRec^.sound1Rate := $50F98;
Tune[11].sndRec^.sound2Rate := $6D50D;
Tune[12].sndRec^.sound1Rate := $50F98;
Tune[12].sndRec^.sound2Rate := $612B7;

Tune[13].sndRec^.sound1Rate := $2D8C6;
Tune[13].sndRec^.sound2Rate := $6D50D;
Tune[14].sndRec^.sound1Rate := $2D8C6;
Tune[14].sndRec^.sound2Rate := $48E09;
Tune[15].sndRec^.sound1Rate := $2D8C6;
Tune[15].sndRec^.sound2Rate := $6D50D;
Tune[16].sndRec^.sound1Rate := $2D8C6;
Tune[16].sndRec^.sound2Rate := $818F3;

Tune[17].sndRec^.sound1Rate := $0;
Tune[17].sndRec^.sound2Rate := $749A8;
Tune[18].sndRec^.sound1Rate := $0;
Tune[18].sndRec^.sound2Rate := $6D50D;

Tune[19].sndRec^.sound1Rate := $48E09;
Tune[19].sndRec^.sound2Rate := $612B7;
Tune[20].sndRec^.sound1Rate := $48E09;
Tune[20].sndRec^.sound2Rate := $5B18B;
Tune[21].sndRec^.sound1Rate := $48E09;
Tune[21].sndRec^.sound2Rate := $50F98;
Tune[22].sndRec^.sound1Rate := $48E09;
Tune[22].sndRec^.sound2Rate := $5B18B;

Tune[23].sndRec^.sound1Rate := $44528;
Tune[23].sndRec^.sound2Rate := $612B7;
Tune[24].sndRec^.sound1Rate := $44528;
Tune[24].sndRec^.sound2Rate := $749A8;
Tune[25].sndRec^.sound1Rate := $44528;
Tune[25].sndRec^.sound2Rate := $6D50D;
Tune[26].sndRec^.sound1Rate := $44528;
Tune[26].sndRec^.sound2Rate := $612B7;

Tune[27].sndRec^.sound1Rate := $40C7A;
Tune[27].sndRec^.sound2Rate := $5B18B;
Tune[28].sndRec^.sound1Rate := $40C7A;
Tune[28].sndRec^.sound2Rate := $50F98;
Tune[29].sndRec^.sound1Rate := $40C7A;
Tune[29].sndRec^.sound2Rate := $48E09;
Tune[30].sndRec^.sound1Rate := $40C7A;
Tune[30].sndRec^.sound2Rate := $4DBC5;

Tune[31].sndRec^.sound1Rate := $3CBB2;
Tune[31].sndRec^.sound2Rate := $565F8;
Tune[32].sndRec^.sound1Rate := $3CBB2;
Tune[32].sndRec^.sound2Rate := $67A5C;
Tune[33].sndRec^.sound1Rate := $3CBB2;
Tune[33].sndRec^.sound2Rate := $612B7;
Tune[34].sndRec^.sound1Rate := $3CBB2;
Tune[34].sndRec^.sound2Rate := $565F8;

Tune[35].sndRec^.sound1Rate := $3A4D4;
Tune[35].sndRec^.sound2Rate := $4DBC5;
Tune[36].sndRec^.sound1Rate := $3A4D4;
Tune[36].sndRec^.sound2Rate := $48E09;
Tune[37].sndRec^.sound1Rate := $3A4D4;
Tune[37].sndRec^.sound2Rate := $40C7A;
Tune[38].sndRec^.sound1Rate := $3A4D4;
Tune[38].sndRec^.sound2Rate := $48E09;

Tune[39].sndRec^.sound1Rate := $36A87;
Tune[39].sndRec^.sound2Rate := $4DBC5;

Tune[40].sndRec^.sound1Rate := $36A87;
Tune[40].sndRec^.sound2Rate := $565F8;
Tune[41].sndRec^.sound1Rate := $33D2E;
Tune[41].sndRec^.sound2Rate := $4DBC5;
Tune[42].sndRec^.sound1Rate := $33D2E;
Tune[42].sndRec^.sound2Rate := $48E09;
Tune[43].sndRec^.sound1Rate := $3095B;
Tune[43].sndRec^.sound2Rate := $40C7A;
Tune[44].sndRec^.sound1Rate := $3095B;
Tune[44].sndRec^.sound2Rate := $3CBB2;

Tune[45].sndRec^.sound1Rate := $2D8C6;
Tune[45].sndRec^.sound2Rate := $36A87;
Tune[46].sndRec^.sound1Rate := $2D8C6;
Tune[46].sndRec^.sound2Rate := $3CBB2;
Tune[47].sndRec^.sound1Rate := $24704;
Tune[47].sndRec^.sound2Rate := $40C7A;
Tune[48].sndRec^.sound1Rate := $24704;
Tune[48].sndRec^.sound2Rate := $48E09;

Tune[49].sndRec^.sound1Rate := $3095B;
Tune[49].sndRec^.sound2Rate := $40C7A;
Tune[50].sndRec^.sound1Rate := $3095B;
Tune[50].sndRec^.sound2Rate := $3CBB2;
Tune[51].sndRec^.sound1Rate := $40C7A;
Tune[51].sndRec^.sound2Rate := $36A87;
Tune[52].sndRec^.sound1Rate := $40C7A;
Tune[52].sndRec^.sound2Rate := $4DBC5;

Tune[53].sndRec^.sound1Rate := $3CBB2;
Tune[53].sndRec^.sound2Rate := $48E09;
Tune[54].sndRec^.sound1Rate := $3CBB2;
Tune[54].sndRec^.sound2Rate := $40C7A;
Tune[55].sndRec^.sound1Rate := $3CBB2;
Tune[55].sndRec^.sound2Rate := $3CBB2;
Tune[56].sndRec^.sound1Rate := $3CBB2;
Tune[56].sndRec^.sound2Rate := $612B7;

Tune[57].sndRec^.sound1Rate := $36A87;
Tune[57].sndRec^.sound2Rate := $5B18B;
Tune[58].sndRec^.sound1Rate := $36A87;
Tune[58].sndRec^.sound2Rate := $50F98;
Tune[59].sndRec^.sound1Rate := $36A87;
Tune[59].sndRec^.sound2Rate := $48E09;
Tune[60].sndRec^.sound1Rate := $36A87;
Tune[60].sndRec^.sound2Rate := $40C7A;

Tune[61].sndRec^.sound1Rate := $3095B;
Tune[61].sndRec^.sound2Rate := $3CBB2;
Tune[62].sndRec^.sound1Rate := $3095B;
Tune[62].sndRec^.sound2Rate := $36A87;
Tune[63].sndRec^.sound1Rate := $3095B;
Tune[63].sndRec^.sound2Rate := $3CBB2;
Tune[64].sndRec^.sound1Rate := $3095B;
Tune[64].sndRec^.sound2Rate := $48E09;

Tune[65].sndRec^.sound1Rate := $3CBB2;
Tune[65].sndRec^.sound2Rate := $612B7;
Tune[66].sndRec^.sound1Rate := $3CBB2;
Tune[66].sndRec^.sound2Rate := $48E09;
Tune[67].sndRec^.sound1Rate := $3CBB2;
Tune[67].sndRec^.sound2Rate := $40C7A;
Tune[68].sndRec^.sound1Rate := $3CBB2;
Tune[68].sndRec^.sound2Rate := $48E09;

For i := 69 To NumOfNotes Do
Begin
  Tune[i].sndRec^.sound1Rate := Tune[NumOfNotes+1-i].sndRec^.sound1Rate;
  Tune[i].sndRec^.sound2Rate := Tune[NumOfNotes+1-i].sndRec^.sound2Rate;
End;

Tune[NumOfNotes-3].sndRec^.duration   := Quarter;
Tune[NumOfNotes-2].sndRec^.duration   := Quarter;
Tune[NumOfNotes-1].sndRec^.duration   := Quarter;
Tune[NumOfNotes  ].sndRec^.duration   := Quarter;
```

If you already have the Shell program that we developed in the previous two issues, then adding these routines to the correct locations will allow you to compile the demonstration properly on the TML Pascal compiler. Next month we shall see how output can be sent to the printer from a Pascal program on the Macintosh.

Steven Martin is a Denver-based programmer and author.

```
End;
Begin { PlayCanon }
 SetUpCanon;
 For i := 1 To NumOfNotes Do StartSound
 (Pointer(@Tune[i]),FTBuffsize,Pointer(-1));

 For i := 1 to NumOfNotes Do
   DisposPtr(Pointer(Tune[i].sndRec));
End;

Procedure CenterText(y: Integer; S: Str255);
Begin
 MoveTo((246-(StringWidth(S) div 2)),y);
 DrawString(S);
End;

Procedure ShowTitle;
Var
 R:   Rect;
 picH: PicHandle;
Begin
 SetRect(R,0,0,492,300);
 EraseRect(R);
 InvalRect(R);

 picH := GetWindowPic(myWindow);
 KillPicture(picH);
 picH := OpenPicture(R);

 CenterText(40,'Music Demonstrations');
 CenterText(60,'Copyright © 1986');
 CenterText(80,'By Steven Martin');
 CenterText(130,'Please make a Menu Selection');

 ClosePicture;
 SetWindowPic(myWindow,picH);
End;
{-----------------------------------------}

Listing 2: Change to FileMenu setup

  MenuTopic := NewMenu(FileMenu, 'File');
  {So we can quit!}
  AppendMenu(MenuTopic,'Play Music');
  {Play our tune}
  AppendMenu(MenuTopic,'Crab Canon');
  {Play the Canon}
  AppendMenu(MenuTopic,'-');
  AppendMenu(MenuTopic,'Quit/Q');
  {Has a keyboard equivalent.}
  InsertMenu(MenuTopic,0);

{-------------------------------------------}

Listing 3: Changes to FileMenu

      FileMenu: begin
          Case Item_No of
            1: PlaySWMusic;
            2: PlayCanon;
            3: { Empty line } ;
            4: Finished := True;   {Quit}
          End; { Case Item_No }
        End;

{-------------------------------------------}

Listing 4: Changes to Main Program block

BEGIN { Main program }
  InitThings;
  SetUpThings;
  SetPort(myWindow);
  ShowTitle;
  MainEventLoop;
  CloseThings;
END.
```


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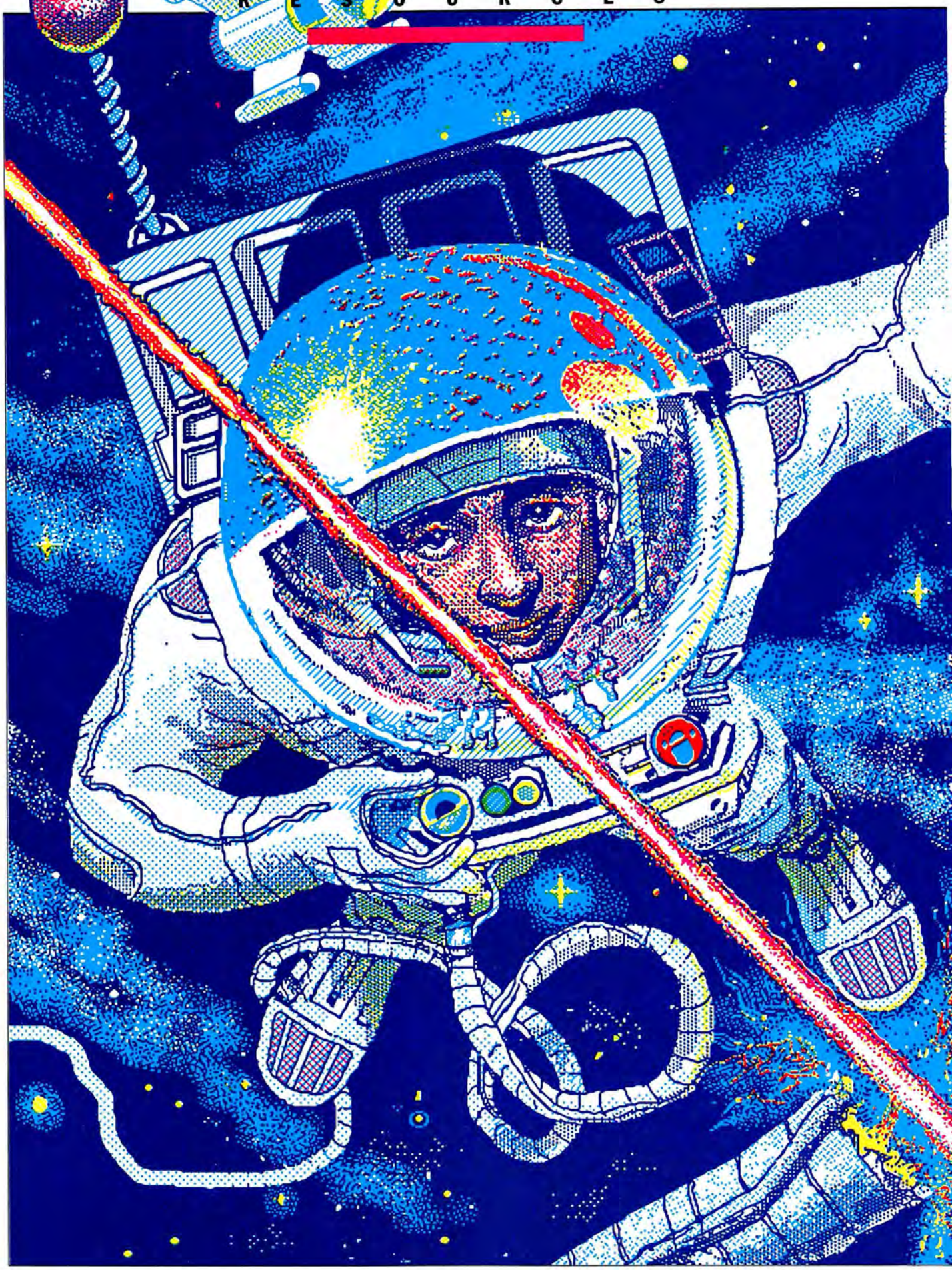
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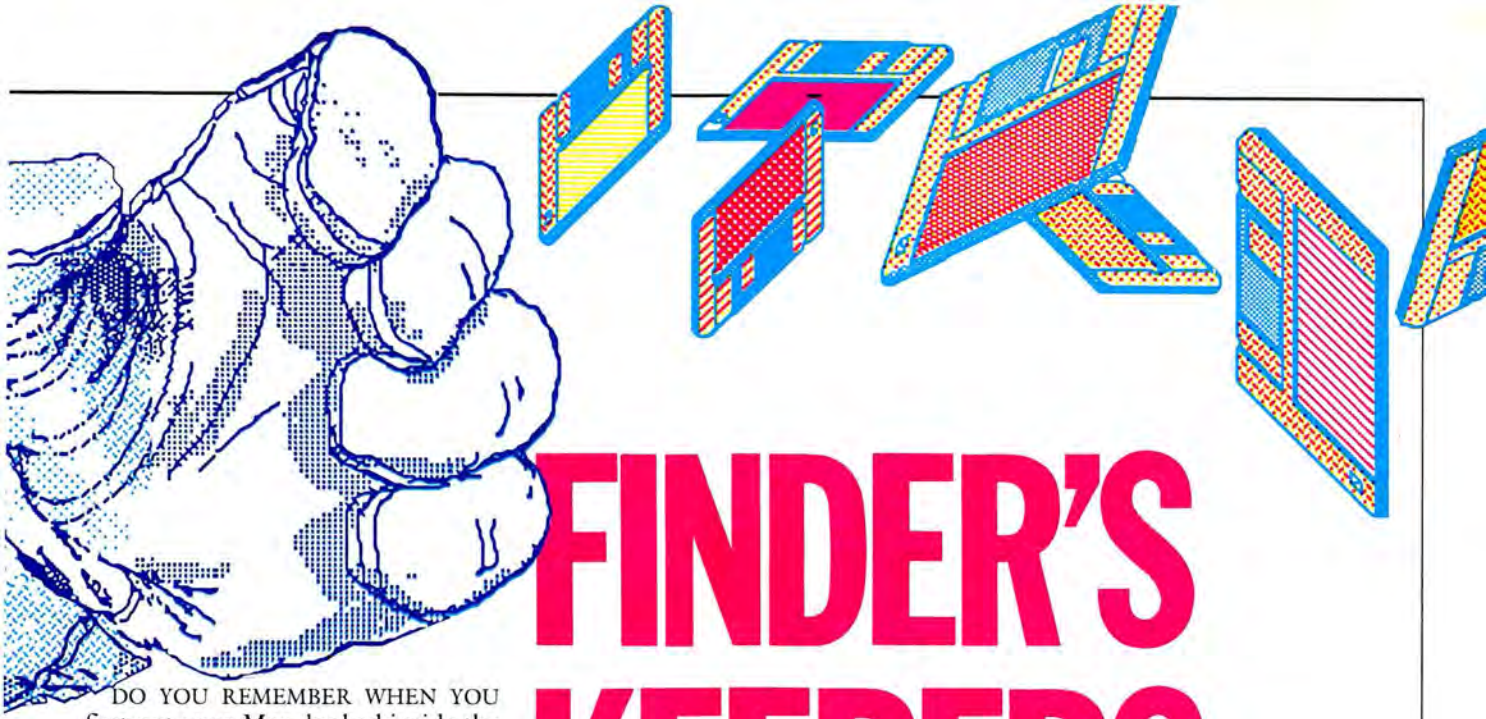
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No need to feel lost in space about the Mac's most important application, the Finder.

DO YOU REMEMBER WHEN YOU first got your Mac, looked inside the System folder, and found a few little Macs — one labeled *System,* and one labeled *Finder?* The *System* was easy enough to accept, even if you weren't entirely sure what it was — every computer needs some sort of operating system. But the *Finder* ... what in the world was that for?

The desktop is so much a part of Mac that it seems hard-wired, somehow already hiding behind that gray screen when you turn the Mac on. But, it's only the *Finder* doing its job. The *Finder* itself is "just" another application; and, like other applications, it can be upgraded — and it has been, a number of times.

What with newcomers (thank goodness there are always beginners among us, swelling the ranks) and new *Finders* (to which we update without looking at the specs), it's time to take a closer look at the desktop and the things you can do there.

THE WINDOWS

When you "open" a disk in the *Finder,* you get a window that lets you look into that disk and see what's on it; when you open a folder, the same thing happens. (An OPEN command, whether from the File menu or as a double-click, can mean two different things: it opens a disk or folder so you can look inside, but it also "launches" an application directly or by way of a document.)

There are lots of things you can do to make your windowing easier, not the least of which is making sure you've upgraded to the new ROMs so you have a Zoom Box in each title bar. A single click in the Zoom Box toggles a window's size and position between the one you define and an almost full-size one that conveniently leaves a strip of the desktop showing so you can see the Trash Can and disk icons.

Any time you want to move a window around without making it active, hold down the COMMAND key while you drag the window; when you want to close all the windows at once, hold down the OPTION key and click in the Close Box of the top window.

The *Finder* keeps track of the changes you make while working on the desktop: which windows are opened or closed, and where files are moved. When you return to the desktop after working in an application, or after closing down the Mac, it will appear as you left it — unless you fool the *Finder.*

You can "blindfold" the *Finder* by pressing the OPTION key whenever you change things on the desktop. It won't know that you've opened a window, or shuffled its contents around. This can save time in a number of ways:

- Keeping a neat desktop, with few windows open, means it takes less time for the desktop to appear when you return to it. If you're looking through a lot of folders, you won't have to close them all before leaving the desktop: the *Finder* won't even know you opened them.
- When you've rearranged your desktop, the changes are recorded in a special file before you leave it; this results in a delay before an application opens. If the *Finder* thinks you've made no changes, it won't have to record them.
- Have you ever ejected a disk, leaving its image on the desktop — and one of its windows remains, blocking your view? If you close or move that window and then try to launch an application from the remaining disk, you'll be asked to

by Sharon Zardetto Aker

JOHN LANEY

FINDERS, KEEPERS

insert the ejected disk — the *Finder* has to record the window adjustment on the disk the window belongs to. If you don't let the *Finder* know what you're doing to that window, it won't ask for the disk before it proceeds with the application launch.

One of the few times the *Finder* remembers something you've done with the OPTION key down is when you use it as a shortcut to close all the windows. This brings us to the catch — you can't close a window without the *Finder* finding out. If you do it with the OPTION key held down, all the windows close and the *Finder* knows about it; if you do it without the OPTION key, the *Finder* knows about it in the normal course of desktop events.

ICONS

When you're working with icons, keeping windows neat is easy with the CLEAN UP command in the Special menu. This command aligns all your icons on a predetermined grid. If you have the extra time (a couple of seconds) you can watch them move into place — they'll slide into the nearest empty space, which means sometimes there will be a few empty spaces in the grid.

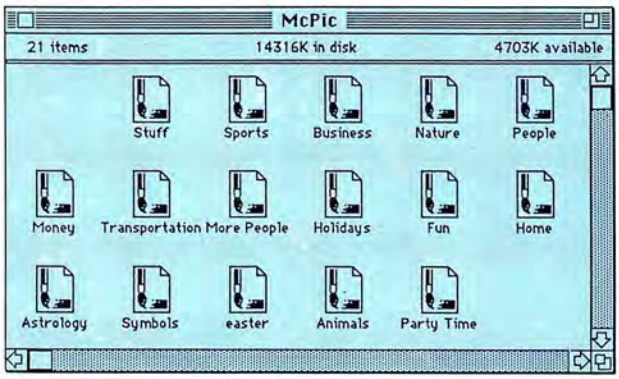
A faster way to clean up a messy window is to hold the OPTION key down while you select CLEAN UP — the window goes blank, and then the *Finder* deals out the icons one at a time into each available grid spot, leaving no empty spaces at all. (This is another OPTION option that the *Finder* remembers.)

Once your window is neat, you can keep it that way by holding the COMMAND key down whenever you move an icon. When you release the mouse button, the icon snaps into place on the grid. It will, though, snap into the nearest place, so it may land on top of another icon — aim a little before you let go. And if your window is crowded, try switching to SMALL ICONS in the View menu.

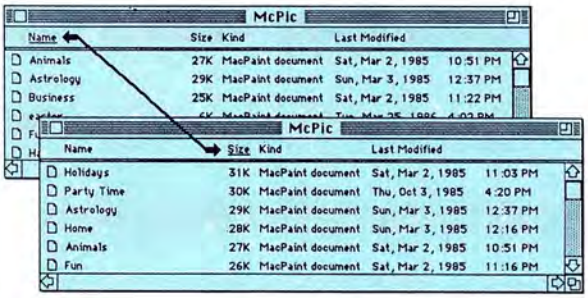
TEXT VIEWS

Mac people get so used to icons that they tend to ignore handling the desktop in any other way. However, there are advantages to the alternate

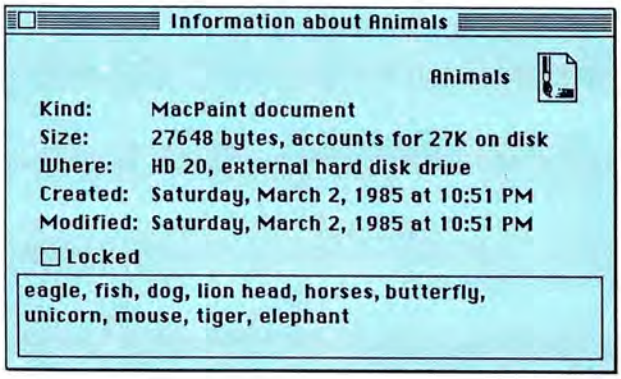
The CLEAN UP command aligns icons neatly, but may leave gaps in the grid. Use the OPTION key with the COMMAND to fill in all the spaces. Note that the size of this folder is not available in the window — only a report on the space left on the disk. The double square in the upper right corner is the Zoom Box available with the new ROMs.



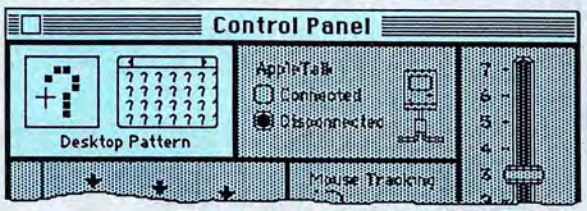
Text views offer more information about each item in a window; the column by which the list is sorted is always underlined.



The Get Info window provides some unique information about each file, as well as the opportunity to lock and unlock the file.



LOOKS AREN'T EVERYTHING, BUT ...



You can change the desktop pattern by using the *Control Panel;* use any of the available patterns, or create your own.

Your desktop starts out gray, but you can change its pattern with the *Control Panel.* Click on the white bar above the desktop pattern in the *Control Panel,* and sample patterns will appear; clicking to the left or right of the center in the bar moves you backward or forward through the available patterns. A FatBits representation of the pattern appears to the left; you can edit this to any design you like. When you find or create the pattern you want, click in the pattern sample and the desktop will change accordingly.

If you really want something fancy, *Desk Scene* from PBI Software lets you turn any *MacPaint* document into a desktop background.

As for the icons, PBI also offers *Icon Switcher.* This utility lets you easily change any icon on your disks. You can alter or replace an application icon, or its document icons, or the *Finder*'s own icons.

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arrangements available from the View menu. It took me more than a year to make regular use of any of the text views — but you shouldn't wait any longer.

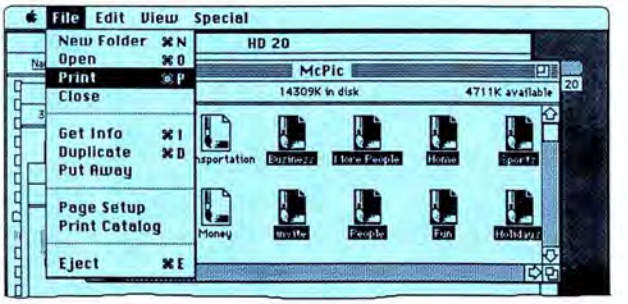
Text views offer more information about each item than an icon does. You can see at a glance, for instance, how much room a file takes, and if it is locked. The text views look the same and offer the same information — just the order of the files changes; the column by which items are sorted is underlined at the top of the window.

People don't switch to a text view for aesthetic reasons; each one offers specific advantages. When you have a lot of files, listing By Name can help you find one faster. If you need more room on your disk, list By Size so you can see where you should trim the fat first. If you have a few versions of the same document saved, you don't have to go to GET INFO to find out which is the latest — By Date lists files in order of modification dates, noting both the date and the time so you can easily pick out the most recent version.

In early versions of the *Finder*, text views were just that — views. Now you can manipulate your files while in any text view: drag them into the Trash, rename them, place them in folders...anything except rearrange them, since text views are arranged in the specific order you asked for. And, although you can't select multiple files by dragging a rectangle to enclose them, you can SHIFT-click your way to a multiple selection.



Avoid the top dialog box by using the OPTION key when you Trash an application. Avoid the lower dialog box by using the COMMAND key when you Trash a locked file.



Using the *Finder's* PRINT command means you can print multiple documents with one command.

GET INFO

GET INFO, available from the File menu or as COMMAND-I from the keyboard, supplies valuable information about any file on your disk. (A file is a collection of information on the disk: a document, an application, or a folder — anything you can see as an icon, as well as a few things you can't see!)

Much of this information is available in the text views, but GET INFO provides even more: the Creation date, as well as the Modified date, and the disk location. And, if you want to know how large a folder is, GET INFO provides the size.

In addition, the GET INFO window provides an area for comments about any file, and it is only in this window that you can lock and unlock files. A locked file can't be thrown out by mistake. It can't be changed, either; if you open it in an application and try to save changes to it, you'll get a dialog box to that effect.

A locked file is noted in a text view with a little padlock. In an icon view, you can quickly check if a file is locked: place the cursor over the name of the file — if it does not change to the I-beam text cursor, the file is locked. You can throw out a locked file on purpose, though, without unlocking it first...which brings us to the Trash Can.

TRASH CAN

So, what's there to say about the Trash Can? Just drag a few icons into it and select EMPTY, right?

First, you don't have to empty the Trash. As soon as you open an application, Mac takes out the Trash for you. Or, if you eject a disk, the files from that disk which you've placed in the Trash will be erased.

(How many ways can you eject a disk? Select it and choose EJECT from the menu; select and hit COMMAND-E; hit COMMAND-SHIFT 1 or 2 to eject from the internal or external drive; or drag the icon into the Trash — nothing's erased, but the disk will pop out.)

When you try to throw out an application, the Mac will ask if you are sure; to avoid this double-check, hold the OPTION key down as you drag it to the trash.

You can't just drag a locked file into the Trash; the Mac will tell you that it can't be thrown away, and it will bounce right back to its original position. But if you hold the COMMAND key down, you can put any locked file in the Trash.

Don't forget, you can open the Trash Can and look inside — once the Trash window is open, you can rescue items from the garbage, as long as it hasn't been emptied.

PRINTING FROM THE FINDER

There are two different Print commands available in the *Finder's* File menu. PRINT CATALOG prints the


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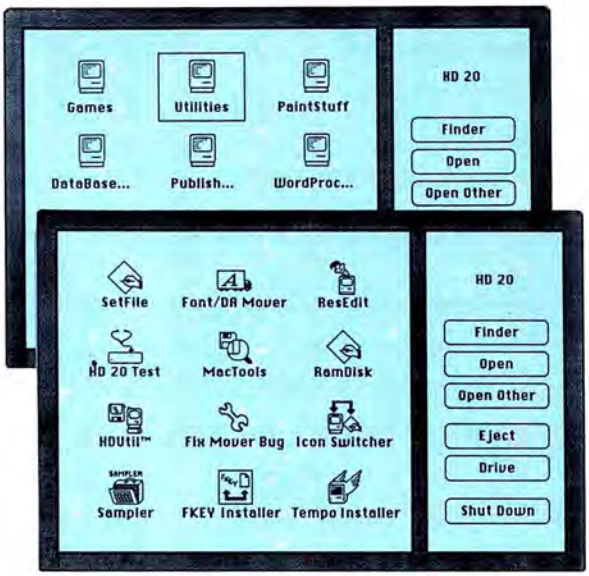
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FINDERS, KEEPERS

You can set up a hierarchical *MiniFinder* so that opening one icon shows 12 more choices.



contents of the active window on the desktop — in whatever is the current view. The PAGE SETUP command applies to this print command.

The plain PRINT command applies to whatever document you have selected on the desktop. Its parent application will be opened, the document is loaded, and then it's printed. This is a convenient way to set up the printing process for any program (almost every program, as far as I know) that doesn't let you set up a chain of documents to be printed. You can, for instance, select four *MacWrite* documents and give the PRINT command only once to get them all printed. It's also a convenient way to get multiple copies of *MacPaint* documents — duplicate

OPEN SESAME

When you're in the OPEN or SAVE boxes of any application and you're accessing a disk under HFS (you'll know — you can see the folders), there are lots of ways you can get at and open a file.

First, is the right disk showing? If not, use the TAB key instead of pressing the Drive button to look at other available disks. In a few special programs — most of Microsoft's products and Living Videotext's *MORE* — the COMMAND key can be used to access other buttons: COMMAND-C or COMMAND-PERIOD for CANCEL, and COMMAND-E for EJECT. Say you're in the OPEN box, and you want to select a certain file. Here's the slow way: scroll until the file shows in the window, click on it, and press the Open button. It's a little quicker to just double-click on the filename when you see it. But, it's a lot quicker to select the file (or the folder) in ways other than scrolling.

Pressing any alphanumeric key on the keyboard selects the first file that begins with that letter or number; keep typing, and the file that matches the keys you're pressing will be selected. Another way to select files/folders in the scroll box is to use the cursor keys: the up and down keys will select the file above or below the currently selected one. The fastest way may be to press the first letter of the file's name so you're in the right area, then use the cursor key to move down one or two to get to the right spot.

When you're saving a document, you can't select a folder in the scroll box by typing its name, or any part of it, since that enters the characters into the document's name. You can, though, use the cursor keys to scroll to folders in the window; pressing RETURN opens that folder. If no folder is selected, then pressing RETURN saves the document in the currently open folder.

It's easy to move down in the hierarchy: just keep opening folders. Moving back up is easy with the mouse: all you have to do is pull down the menu above the scroll bar and select the folder you want to move to. It's even faster with the keyboard, though: press COMMAND-UP cursor and you move up to the last folder you opened. There should be an easy way to jump to the main disk level with a keyboard command, but I haven't found it.

them on the desktop, select all the copies, and PRINT.

MINIFINDER

One of the more recent additions to the Special menu is the MINIFINDER command, which lets you ignore the *Finder* altogether. (You don't even have to have a *Finder* on the disk if a *MiniFinder* is set up.)

Select the applications and documents you want to have available when you're in the *MiniFinder*, and choose USE MINIFINDER from the Special menu. The next time you run an application and quit from it, or start up your Mac, you'll be in the *MiniFinder* instead of on the desktop. Or, to get right to the *MiniFinder* from the desktop, just double-click on the *MiniFinder* icon once it has some files "installed."

In the *MiniFinder*, you can select and open an application or document; if you need to open an application that has not been installed, just hit the "Open Other" button and you'll get a list of available applications.

That's the general idea, but, as with everything else, there are a few little tricks: pressing the TAB key is the same as hitting the "Drive" button, and pressing the ENTER key is the same as hitting the "Finder" button.

Then there's a bigger trick: Set up hierarchy of *MiniFinders* if the 12 available icons in a single *MiniFinder* are not enough: Set up the *MiniFinder* by installing items that belong in a single category — "games," for instance. Duplicate the *MiniFinder* icon, and change the name of the copy to something appropriate. Set up the original *MiniFinder* again, installing a new group of items — the new installation will erase the previous items. Copy the *MiniFinder* again, and change the name of it.

When you have all the subordinate *MiniFinders* set up, select them and install them into the original *MiniFinder*. Run the *MiniFinder*, and you'll see up to 12 icons — open any one of them, and you'll see up to 12 more icons.

Sharon Zardetto Aker is a contributing editor of MacUser and author of many computer books.

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HAYES-COMPATIBLE MODEMS

To temporarily disable the internal speaker, type ATM0 from your terminal program and press RETURN. An "OK" verifies that the volume control is set to off. To turn it back on, type ATM1 and press RETURN.

TOM KNOPLEN
SONOMA, CA

When using the autoredial command offered in many terminal programs, you may want to change the amount of time that the modem waits for a carrier before redialing a number. The command ATS7 = x sets the number of seconds it waits (x is the number of seconds). The default value is usually 20 seconds, but can be changed to just about any number less than 255.

RICHARD BLOCKER
DETROIT, MI

MS BASIC

If you accidentaly open an *MS BASIC* document from the *Finder*, but meant only to open the progam, press COMMAND PERIOD (.) while the program boots. You'll be greeted by an empty document.

MICHAEL STEWART
KANATA, ONTARIO

COPY II MAC

The newest versions of *Copy II Mac* won't transfer a protected program from a single sided disk to a double sided disk. In order to do this, use the *Copy II Hard Disk* program included with *Copy II Mac*, and set the target double-sided disk as the hard disk volume to write the protected program onto. The protected program should then run from the DS disk. (*Note: this doesn't work with all protected programs.*)

DICK ROLLER
PARIS, IL

COMICWORKS

ComicWorks has a special FKEY that copies any part of the screen to the Clipboard as a bitmapped image. Using *ResEdit*, this FKEY can be copied and pasted into your own *System*. In *ResEdit*, open the *System* on the *ComicWorks* master disk, and open the FKEY resources. FKEY 6 (Screen Clip) is what you're after. Select it and COPY , close the *ComicWorks System*. Open the *System* you want to install it on, open FKEY, and Paste.

MIKE SAENZ
NEW YORK, NY

SYSTEM

To keep the *Alarm Clock* DA running and in sight in an application, simply open it from the Apple menu, move it to the highest possible position on the screen, and move your active work window down, allowing the DA to peek through. Even if the front window is active, the *Alarm Clock* will continue to display the correct time. This doesn't work in *MacPaint* and other programs with a fixed main window, and will not survive a program Quit.

SIOUX ROBERTS
CLEARWATER, FL

The new *Control Panel* doesn't have something the older one did: a control to set the time and date in PRAM. This must now be done with the *Alarm Clock* desk accessory.

JERRY SANDERSON
SAN FRANCISCO, CA

HFS/NEW ROM

INIT resources are procedures that automatically execute when you start your computer (An example of an INIT is a clock that installs itself into the menu bar upon startup.) INITs usually reside within the *System* file (and have to be placed there using an installer program, or pasted in with *ResEdit*), but if your Mac has the new ROM chips, there is another way to get them to work without permanently installing them. Take the INIT file that you want to run, change the file type to INIT (using *Fedit* or *ResEdit*), and place the file into the System folder. It will now execute without actually being installed into the *System* file. This makes it easy to remove the INIT file, if necessary.

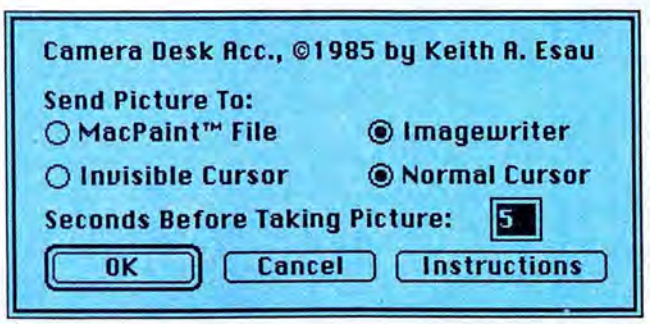
JASON SCHECK
BISMARCK, ND

You can squeeze the best performance out of HFS by getting into the habit of having a lot of folders, each one with few files, instead of few folders with many files.

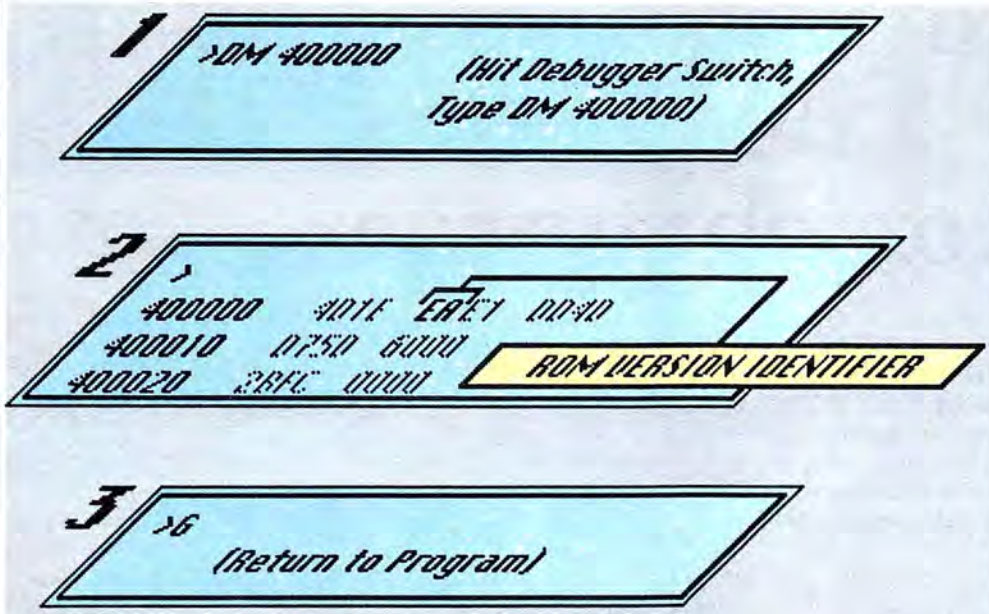
LANCE LEWIS
FLEMINGTON, NJ

If you try to create a screen dump while a menu is open, you'll discover that it doesn't work. You'll have to use the *Camera* public domain desk accessory to get a dump of a menu or a screen with an open menu. Be careful using this DA on a Hyperdrive, or if *MacServe* is installed. It has been known to cause problems in these configurations.

CARA BANGEL
RAMSEY, NJ



compiled by David Biedny



Mac Pluses with early ROMs sometimes have problems powering up when a SCSI device is attached. The Mac will only power up if the SCSI device is turned on first. This problem has been fixed in the most recent ROM releases. Don't know which ROMS are in your Mac? The diagram will help you find out.

DARRYL SIMSON
DALLAS, TX

If you're using a hard drive, and wish to make a floppy (or another volume) the startup (as long as it has a *System* and *Finder*), hold down the OPTION key while launching an application. That disk will then become the startup disk.
DEBBIE REINHART
PORTLAND, OR

Many desk accessories work well on the Plus, but don't seem to work when they're first installed. If the DA has any data or support files, they must be placed in the System folder for the DA to function properly.
NANCY LEVITTEN
LOS ANGELES, CA

If you want to use the original external numeric keypad with the new ROMs, you'll find that the first character typed on the regular alphanumeric keyboard will not register in the computer. If you type the first character on the numeric keypad itself, it repeats the character continuously until another key is pressed.
GODWIN MENSAH
HOBOKEN, NJ

JAZZ

Before and after using *Jazz*, be sure to power down your Mac. *Jazz* puts a few things into memory that don't get erased by the reset button, and you may find some "ghosts" haunting the next application you use.
JOHN PARVEDES,
STANFORD, CA

WORD

To copy one paragraph's format to another paragraph, choose SHOW ¶ from the Edit menu. The paragraphs' breaks will show. Choose the break symbol (¶) from the end of the paragraph with the formatting to be copied, and COPY it. Select the ¶ from the end of the paragraph to be modified, and PASTE the first ¶ into its place. If you CUT the ¶, the paragraph will assume the formatting of whatever is directly beneath it.
RICHARD D'AMICO
SAN ANSELMO, CA

FULLPAINT

When using pictorial fonts (such as Cairo and Mobile), it isn't necessary to install the fonts into the *System* in order to have easy access to them. Create a *FullPaint* document with the desired characters from the graphic fonts, and when needed, open the file, copy the characters that you want, and paste them into your working window.
CHRIS UNSINGER,
ANN ARBOR, MI

To reduce the size of the *FullPaint* program, use *ResEdit* to clear the two help screens (stored as PICT resources). This will chop 14K from the program.
SCOTT MYERS
NEW YORK, NY

MACWRITE

Sometimes *MacWrite* adds a last page to a document, even though the document has nothing on that page. To avoid the printer wasting a sheet of paper, click on the last character of the document, and drag down until the cursor will go no farther. Any dead space will be selected. Hit the BACKSPACE key to delete it.
BILL SCHUHLE
EL JEBEL, CO

MACDRAW

There is a way to paste in text from the Clipboard and have it wrap within an area. Create the rectangle that the text is to wrap within, and type any character (hitting the space bar will suffice). Any text that is pasted in will wrap to the size specified by the original rectangle.
RON HATHCOCK
PROVO, UT

While printing a multiple page document, you may get a message that "the print command cannot be completed." Work around this by printing only a couple of pages at a time (use the page range selectors in the Print dialog box).
HANNES HOFER
HOUSTON, TX

There's a special trick to transferring an object graphic from *MacDraw* to a bit-mapped program such as *MacPaint* or *FullPaint*, while maintaining the original fill patterns ratio, no matter what scale is specified in the paint program. Select the area that the object graphic is to be pasted into using the selection marquee, and paste the graphic. It will scale itself to the size specified by the marquee without distorting. Resizing it after is deselected, though, results in a distorted stretch.
MICHAEL DEWITT
BROOKLYN, NY

Triple clicking the text tool in a block of text will select all the text within the block.
CHRISTINE SIMMON
NEW BRUNSWICK, NJ

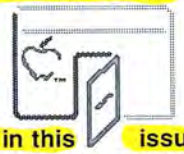
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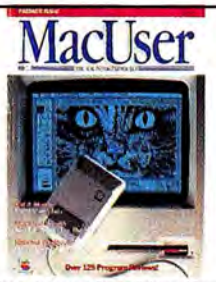
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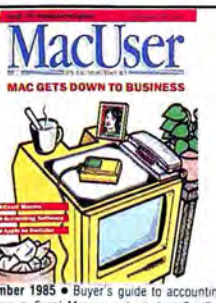
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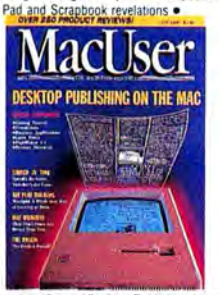
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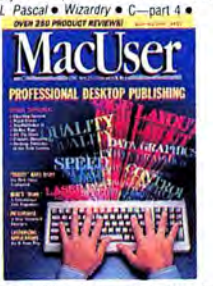
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by Dan Cochran

ANSWERS FROM THE MAC TEAM

Got a Mac problem? Something that you'd like explained? Something you can't find the answer for anywhere else? Apple's Dan Cochran will answer your questions every month in this space. When the questions are too tough for him, he'll get the answers from other members of the Mac team. So ask what you need to know and get your answers straight from the source!

Send your questions to Dan care of MacUser, *25 West 39th Street, New York City, NY 10018. Dan will read all of your questions, but, unfortunately, he may not be able to answer individual queries. Watch this space for the pick of each month's Q & A crop.*

I am an old Apple IIe user and have recently become a Mac owner. I was obsessed with the fact that the Mac was getting so hot. After reading many ads about a fan for the Mac I started my search. In my area no one had a fan, but I did find a cheaper and effective solution to the problem, which I would like to share with others.

For $14.95 you can purchase a Toyo fan model TFS80115A at an electronics store and mount it on the top of the Mac, over the left vent. Use small strips of Velcro to keep it in place. The fan is not the quietest, but it sure keeps the Mac cool.

GLORIA MORRISON
ARCADIA, CA

Thanks for the tip, Gloria. However, under normal operating conditions and with healthy hardware, there is no reason why your Macintosh should require a fan. Unless you have a third-party RAM upgrade, a HyperDrive, some other non-standard hardware, or work in an extremely hot environment, the heat produced by the Macintosh is well within the tolerance levels we have set. If your fan has eliminated frequent system crashes, great. But rather than put up with a noisy fan you might be better off having your Macintosh checked out by a good dealer.

I have a 512K Macintosh and a CAD system. How can I load small drawings from the CAD system into the Macintosh and print the resultant drawing on a LaserWriter?

The idea would be to pull down the drawing from the CAD system, save it in *MacDraw* in both DRAW and PICT formats and use it with *Word* text and/or *PageMaker*. My CAD system can download in both IGES and binary format. It has a SCSI port. My problem is how to get the data into the Macintosh.

I understand there are some Technical Notes that may be of use. If these notes are a myth what other avenues can you suggest? What I am doing now — plotting the drawings and then physically cutting and pasting them into a *Word* or *PageMaker* document — is ridiculous considering the capabilities of the Mac.

MARGARET RUSSELL
WOBURN, MA

What you want to do is entirely reasonable, but I don't know of any commercially available solutions today. First, IGES format would not be understood by MacDraw *(which only understands QuickDraw) ... your CAD system's binary format is probably even more useless to* MacDraw. *Somehow you need to convert the internal format of your CAD systems documents to one that* MacDraw *or* MacPaint *can deal with. I don't know of any programs that can do that. I'll send you some Tech Notes that explain the DRAW and PICT formats as well as the* MacPaint *formats.*

If you know enough about your CAD system's internal file formats, and your CAD system also gives you access to a programming language, you could write an appropriate conversion program. Even if you get that far you'll still have to deal with transmitting the files over the SCSI port, which will require even more programming, both on the Macintosh and on your CAD system. All in all, it's no easy task. Have any of you solved this one? If so, please let me know!



I am sure that most every Mac user has run into a bomb at least once and not understood what was going wrong. For instance, I am running into a lot of numbers 14 and 10. What are these? What do all the other numbers mean? Where can I find a breakdown of exactly what system error has occured? If the numbers are to be found in *Inside Macintosh* could you print a list of these cryptic purveyors of doom for the rest of us who cannot afford, have no desire, or are not yet able enough to use that mighty tome?

AUGUSTUS SCHOEN-RENE
GENEVA, NY

While searching our technical support databases (with the hope that someone had already comprised a list of error codes, saving me the trouble of typing them all), I stumbled upon this most eloquent explanation. Thanks to Apple Technical Communications for this gem.

No document can detail the various Macintosh system errors because system error codes themselves are not very descriptive. The Macintosh provides almost no internal error reporting mechanism and the architecture's complexity usually renders the error codes meaningless.

Here's a metaphor. Suppose you're driving down a road and you see a car rammed head-on into an oak tree, all in flames. What happened? Was the driver drunk? The road slippery? Did a tire blow? All physical evidence is destroyed because of the impact; if you weren't there to see the accident, up close, there's no way for you to know exactly what happened. If you could re-live it, in slow motion, then maybe you could see the causes (obvious or subtle), and if you were an auto mechanic, road builder or doctor, perhaps you could prevent it from happening next time.

So it is with the Macintosh. A million things can go wrong in very complex ways: a handle can be dereferenced, or a routine can get a NIL pointer, or the stack can dip into the heap for just a few cycles and not be caught by the stack sniffer, or an application can forget to check an error code. Whatever the cause, the result is that the Macintosh loses control and hits the oak tree.

You don't know which oak tree it will hit on which road; sometimes it can careen for seconds on end before executing an unimplemented instruction or jumping through an invalid return address.

ANDY MARTIN

A user can do almost nothing for an application that shows a system error ID on a crash. If it's reproducible, the programmers are usually very interested in seeing how it was done; but finding out what's wrong involves the use of debugging tools, intricate knowledge of Macintosh memory structures, and familiarity with the application itself. Fixing it usually involves recompiling the source code.

But whatever happens, if a Macintosh ever gets out of control, it usually crashes with a system error code. For your information, here's what can be said about the codes:

ID=02 is Address Error; that means a word- or longword-based instruction was passed (sent to) an odd address. That's not allowed. Since hitting an odd address is a 50/50 proposition when running random code, this one shows up quite often.

ID=03 is Illegal Instruction; less likely than 02, but still very common.

ID=07 (Privilege Violation), 06 (TrapV Exception), 11 (Miscellaneous Exception), and 12 (Unimplemented Core Routine) almost always happen because of getting loose, and, along with ID numbers 2 and 3, probably cover 90 percent of all crashes.

ID=04 is a Divide By Zero; either a programmer was dumb and didn't check, or the program got loose, or in some cases the programmer put these in as debugging aids and forgot to take 'em out. Same for ID=10 (Line 1111) and ID=05 (Check Exception). ID=08 (Trace Exception), 13 (Spurious Interrupt), and 14 (I/O System Error) are hardware-related and should not be seen on a Macintosh except when strange hardware or debugging tools are in.

ID=15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 30 and 31 all come up when the System *file is trashed. Replacing the* System *file may cure these.*



The only ones left are ID=25, 28, and 31. All of these are memory errors: memory full, stack overflow, or memory manager failed. You'll see these when running a 512K application on a 128K machine, or under Switcher *in too-small partitions.*

How do I connect my Advent TV set (large screen) to show the picture on my Macintosh computer screen? I also have a camera and TV recorder.

GORDON GOLD
CHAPEL HILL, NC

Unless your television set allows you to adjust the raster scan rate or you are willing to invest in an expensive Conrac-type monitor or projection device (they start at $3000), you'll have to be content with viewing your work only on your Macintosh screen.

Most standard televisions, video cameras, VCRs, and many computers (e.g., the Apple II family and IBM PCs) comply with the NTSC video standards. The video circuitry in the Macintosh doesn't adhere to these standards, primarily because we couldn't possibly achieve such a high degree of screen resolution and quality if we did.

If you decide to invest in an expensive Macintosh-compatible monitor or projector, you'll also have to invest in special hardware

ANDY MARTIN

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I have upgraded my 128K Mac to a Mac Plus and love it. But is Apple going to come out with an *Inside Mac Plus?* And with the new ROM, how useful are books like *Macintosh Revealed* and *One Flew Over the QuickDraw's Nest?*
JIM TICE
COLUMBIA, SC

Barring any unforeseen circumstances, Inside Macintosh, Volume IV *will make its debut on August 14th at the MacWorld Expo in Boston. Look for it at the Addison-Wesley booth, or if you can't make it to Boston, shortly thereafter at your local bookstore. There's new incremental material for practically every chapter in the original* Inside Macintosh *as well as completely new Hardware and File Manager chapters. Kudos to writer Bob Anders for his hard and inspired work on* IM,Volume IV.

Regardless of the new ROM there are several useful books, including the ones you mention, that beautifully complement the Inside Macintosh *suite. Check out* How to Write Macintosh Software *by Apple Technical Support's very own Scott Knaster.*

I have so far been unable to access the resident 10-pitch (not point) font in my ImageWriter II printer. This makes it impossible to print out in standard Pica spacing in the Draft print mode. The manual gives instructions on setting the DIP switches to reach this font, but they don't appear to work. I've tried both *MacWrite* and *Word*. A friend of mine has the same problem with his ImageWriter II. Is this a bug with the printer?
BRYAN WINTER
LOS ANGELES, CA



It's not a bug with the ImageWriter II. The heart of the problem is that software can always override the DIP switch settings on your printer. This is a very desirable feature as long as the software also doesn't make any assumptions about the type of output the user actually wants. Unfortunately, both MacWrite *and* Word *assume the user will be perfectly content with 12 character per inch spacing in draft mode. Actually, it might be the standard* ImageWriter *driver that makes this assumption rather than the programs themselves. In any case, I know of no way to embed the appropriate printer control characters you need in your* MacWrite *or* Word *documents.*

If you could send the appropriate control codes to the printer from either of these applications, either by embedding them in your text, or by selecting them from a series of radio buttons in a dialog box, you'd be able to get your way. If you must have 10 CPI draft mode printing you could write a small program in BASIC or Pascal, which would send the appropriate control codes to the printer and then print a MacWrite *file saved as text only.*

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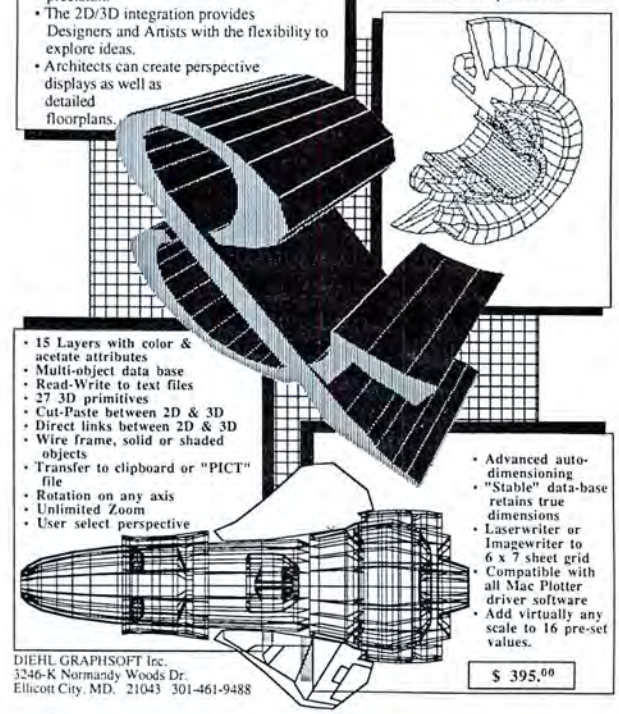
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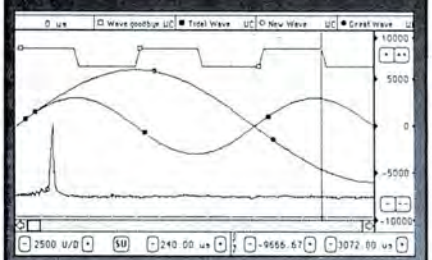
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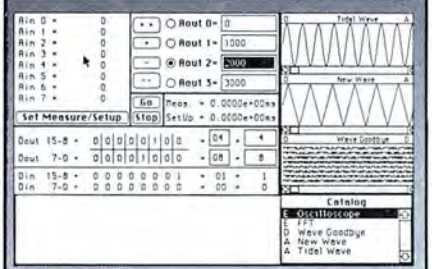
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MINIFINDERS



Have you often wished for a personal assistant to help in picking software? These MiniFinders may not breathe and move, but they do tell you what products are hot and, better, what these products do. Each of these items has been carefully reviewed and selected by the* MacUser *editorial staff. Each has been rated from 1 to 5 mice. Ratings are relative within categories, and they can change as categories expand and new products advance the state of the art. You won't see many low ratings or bombs, since we're telling you about the cream of the crop, but we will warn you about the really bad products so that you don't spend your money on them. Red names indicate this month's additions. The letters at the end of the entries indicate whether a product is copy protected (CP) or not (NCP). CP? indicates that we don't know. If a product has been reviewed or QuickClicked in* MacUser*, the date of the review is shown. Next time you have to find products you can count on, count on* MacUser*!

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INTEGRATED SOFTWARE

Crunch is an icon-driven relational spreadsheet that features ♟♟♟♟ versatile charting and database capabilities. Strong financial logic, date and mathematical functions. Spreadsheets can be linked. The manual is clear and concisely written. Macros are not supported. $195. Paladin, 2895 Zanker Rd., San Jose, CA 95134. CP (Jan 86)

Ensemble lets users create a database of words, pictures, and/or ♟♟♟ numbers; graph data; generate custom forms and link files for applications such as mail merge. Can perform calculations and math functions on data. Capacity limited by RAM and disk size. $299.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

Excel is THE power spreadsheet. Of the Mac, of the world. Has ♟♟♟♟♟ 256-column by 16,384-row capability. Features include a powerful, easy to use macro function (with a recorder to make creation simple) and elaborate charting facilities. Can link multiple spreadsheets. 512K+ Mac and external drive required. $395. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. CP (Prem)

Jazz provides well integrated modules for word processing, graphs, ♟♟♟♟ worksheets, databases and communications. Each of the modules is substantial. HotView, where data placed in any module automatically updates all other documents that use that data, is best feature. *Jazz* provides adequate coverage of most data and communications needs of small businesses. Requires 512K+ and external drive. Version 1A requires 800K drive. $595. Lotus, 55 Cambridge Parkway, Cambridge, MA 02142. CP (Prem)

Quartet is an integrated program that works on a 128K Mac, built ♟♟♟♟ around a powerful spreadsheet with a full range of functions. It can also be used as a database and provides good quality charts from spreadsheet data. Documentation is adequate, but not too well organized. $199. Haba Systems, 15154 Stagg St., Van Nuys, CA 91405. CP

BUSINESS ACCOUNTING

BPI General Accounting is an easy to use system. Six journals, ♟♟♟♟ AR, AP, Payroll and GL on one disk. Offset amounts automatically post to ledgers. Up to 8000 accounts, transactions limited by disk space. Number up to $999,999,999.99. Detailed records, wide range of reports. *Switcher* and HFS compatible. $425. Requires 512K. BPI Systems, 3001 Bee Cave Rd., Austin, TX 78746. NCP (Aug 86)

CheckMark is a Ledger with five preset journals: Cash Disburse- ♟♟♟♟ ments, Receipts, General, Sales, and Purchases. Other modules are planned. Account ranges are preset. Menus and data entry are very straightforward. Flexible summary reports are built in, but customer and vendor information is very minimal. $295. CheckMark Software, PO Box 860, Fort Collins, CO 80522. CP

Gallery Finance is a one-write system with General Ledger, Cash ♟♟♟♟ Disbursements, Payables and Receivables in a single package. Additional modules to be added. Data entered in a journal is automatically posted to appropriate record card. Excellent manual includes tutorial on basic accounting principles. Requires 512K+, printer and external drive. $795. Micromax Systems, 6868 Nancy Ridge Dr., San Diego, CA 92121. CP (Dec 85)

Hardisk is a complex integrated hard disk system (General Ledger, ♟♟♟♟ Receivables, Payables, Inventory, Payroll and Job Cost modules) that does not use Mac interface. Fully menu driven. Manual is detailed but complicated, with a few extra pages that make it Mac-specific. Flexible reporting, statements and account numbering; huge numbers of accounts, transactions, profit centers and detailed financial analysis. Requires hard disk and printer. $695 per module. Great Plains, Box 9739, Fargo, ND 58109. CP? (Dec 85)

MacOneWrite Cash Disbursements is a simple, one-write check ♟♟♟ writing system. Limited functionality, but does allow some detailed information. Menus clear and easy to follow, but check printing can be confusing. Other modules planned. 512K+ and printer required. $245. Sierra, PO Box 485, Coarsegold, CA 93614. CP (Dec 85)

Rags to Riches integrated accounting modules (General Ledger ♟♟♟♟♟ and Accounts Receivable) uses Mac interface to the hilt. Information entered in one window automatically transfers. Menu commands all have command keystrokes, as can accounts. No detailed or flexible reporting. Very easy to use, although it can be confusing to operate with several windows on screen. Requires 512K+ and printer. $195 per module. Chang Labs, 5300 Stevens Creek Blvd., San Jose, CA 95129. CP (Dec 85)

Strictly Business General Ledger features clear, well-outlined ♟♟♟♟ set-up procedures and operations. Very flexible, with a custom chart of accounts; user-defined journals; up to 99 profit centers per company with up to 100 departments each; and customized reports. Program print spools and allows printing of multiple documents. Requires 512K+, printer and external drive. $395. Future Design, 13681 Williamette Dr., Westminster, CA 92683. NCP (Dec 85)

PERSONAL FINANCE

Dollars & Sense is a bookkeeping program suitable for personal, ♟♟♟ home and small-business use. Easy to use, with a good manual and excellent on-screen help. Will handle up to 120 separate accounts or money categories. Uses standard double-entry accounting techniques. Reports can be gener-



ated and either viewed on-screen or printed. Has simple graphing and charting facilities. $149.95. Monogram, 8295 S. La Cienega Blvd., Inglewood, CA 90301. CP

Electric Checkbook does exactly what the name says: keeps a running account of checkbook transactions, balances checkbook to bank statements, tracks bills, and even prints out checks. Provides detailed financial statements, calculates net worth, lists expenses by category and tracks your personal cash flow. $79.95. State of the Art, 3191-C Airport Loop, Costa Mesa, CA 92626. CP

Financial Cookbook provides nearly 3 dozen "recipes" to help users figure out financial formulas (i.e., mortgage costs at different percentage rates) by inputting pertinent data. Very user-friendly. $44.95. Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. CP

Financial Utilities Pack is a set of applications that allow users to figure annuities, compound and simple interest, depreciation and amortization. Simple and well documented. $69. Cognitive Software, PO Box 26948, Austin, TX 78755. NCP

Forecast is a tax estimating and what-if program designed to work with and use *Dollars & Sense* files. Straightforward, easy to use program. $69.95. Monogram, 8295 S. La Cienega Blvd., Inglewood, CA 90301. CP

The Home Accountant is a complete and easy to use financial system. Data entry is intuitive. All kinds of reports, including charts and checks, are easily generated. Entered data will update all relevant material. $150. Arrays, 11223 South Hindry Ave., Los Angeles, CA 90045. NCP (Apr 86)

Profit Stalker II, Technical Analysis Toolkit for the Macintosh, is a program for the generation of charts and graphs in order to organize data on stocks, mutual funds and commodities. The data can be downloaded with the program or manually entered. There are plentiful options, free upgrades and excellent support. A class act. Requires 512K+ and a Hayes-compatible modem. $250. ButtonDown Software, PO Box 19493, San Diego, CA 92119. NCP (Aug 86)

DATABASES

Business Filevision is a masterpiece of Macintosh programming, the only true graphic database on any micro. Much more powerful than the original, accepts *MacPaint* graphics. $395. Telos Software, 3420 Ocean Park Blvd, Santa Monica, CA 90405. CP (Feb 86)

Factfinder is a free-form information organizer (medium-duty database). Users enter data on to factsheets in any manner desired and select keywords. Searches are by name or keyword. Only one factsheet can be open at a time. Publisher offers free telephone support (800 number). $149.95. Forethought, 1973 Landings Dr., Mountain View, CA 94943. NCP (Feb 86)

File is a flexible data manager. Creates files for a variety of data, including simple graphics. Files are created in simple row/column format, but reports and forms are easily customized by moving field names around on a blank form. $195. Microsoft, 16011 NE 36th Way, Redmond, WA 98052. CP

FileMaker is a nonrelational database that combines lots of power with ease of use. Data entry is extremely flexible and all items in all fields are indexed so that multiple criteria searches are both simple and fast. Calculation fields make the creation of invoices and similar documents a snap. Reports can include graphics and multiple data layouts are easy to construct. $195. Forethought, 1973 Landings Dr., Mountain View, CA 94943. NCP

Filevision is a simple database that can change the way you think about data and data organization. Records are based around user created graphics screens. Screens and records can be linked in complex ways. $195. Telos Software, 3420 Ocean Park Boulevard, Santa Monica, CA 90405. CP

Helix is a relational database that makes extensive use of icons. Excels in database setup and forms generation. Setup is made easy by the adherance to the Mac interface. The manual is clear, thorough and well-indexed. Too complicated for most simple database applications, excellent where a relational database application is required. Requires a 512K+ Mac and external drive. $395. Odesta, 4084 Commercial Blvd., Northbrook, IL 60062. NCP (Mar 86)

The Housekeeper is a home inventory database. Users can keep track of assets for both tax and casualty purposes. Specialized reports are easily generated. $59.95. Aegis Development, 2210 Wilshire Blvd., Santa Monica, CA 90403. NCP (Dec 85)

Interlace is a flexible relational database that makes it simple to create single or multiple files and establish links between files. Excellent report generator gives full control over appearance, style of output. Requires 512K+, second drive or hard disk highly recommended. $129 retail, $95 direct. Singular Software, 5888 Castano Dr., San Jose, CA 95129. CP (Apr 86)

MacBase is a forms-oriented relational database. Unfortunately, precise forms are hard to create. Allows calculated fields and has quick and powerful search capabilities. Best when much data is to be looked up, but not frequently entered. Requires 512K+. $195. Eqtron Corp., 330 Bay St., Toronto, Ont. M5H 2S8, Canada. NCP (Jul 86)

MegaFiler is a simple file manager. Its limited capabilities have been far surpassed by cheaper and easier to use programs. Valuable only in conjunction with *MegaForm*. $195. Megahaus, 5703 Oberlin Dr., San Diego, CA 92121. CP

Omnis 3 is a power database, featuring concurrent multiple file management. Can handle 24 files, 12 at a time, and is fully relational. Allows user to create custom environments including user-defined menus, commands and dialogs. Good report generation capability. Comes in single and multiple user versions. $495 (single user version). Blyth, 2655 Campus Drive, San Mateo, CA 94403. CP (Mar 86)

OverVUE is a power-packed relational database that has extensive sorting, summarizing and report generation capacity. Has macros and a charting function. Good manual. The program tries to anticipate every need conceivable in manipulating data. It can exchange files with a very wide variety of other programs (including IBM software). $295. ProVUE, 222 22nd St., Huntington Beach, CA 92648. NCP (Nov 85)

Professional Bibliographic System is a database designed for storing and retrieving bibliographies. Predesigned forms for 20 types of entries. Citations automatically formatted with correct punctuation for printing. $295. Personal Bibliographic Software, PO Box 4250, Ann Arbor, MI 48106. CP (Feb 86)

Record Holder is a flexible, easy-to-use form-oriented data manager. Set up is particularly simple and the search features are powerful. $49.95. Software Discoveries, 99 Crestwood Rd., Tolland, CT 06084. NCP (Apr 86)

NUMBER CRUNCHING

ClickOn Worksheet is a 50-row by 20-column spreadsheet that loads onto any system disk as a desk accessory. Though small in size, it has remarkable capabilities for a desk accessory. It produces line, bar and pie charts and changes in the worksheet automatically reflect in charts. $79.95. T/Maker Company, 2115 Landings Dr., Mountain View, CA 94043. NCP

DesignScope is a construction kit for digital and analog circuits. Up to 254 components can be utilized in a single circuit, and the equivalent of a dual trace oscilliscope plots output in real-time. 17 analog, 8 digital and 2 I/O components comprise the parts list. Good for testing basic (and not-so-basic) circuitry without touching a breadboard. $249.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP

MacCalc is a fast, competent, full-featured spreadsheet with impressive built-in functions, font control, on-line help,

MINIFINDERS



ability to expand columns and rows and read/write SYLK or WKS files. The worksheet is 125 columns by 999 rows. Cell names, printing power make *MacCalc* a very flexible pure spreadsheet. Easy to use and has a good manual. $99.95. Bravo Technologies, c/o DPAS, PO Box T, Gilroy, CA 95021-2249. NCP (Sep 86)

Multiplan, the first Mac product from someone other than Apple is beginning to show age. Still a very capable basic spreadsheet with simple sorting, 63 columns by 255 rows, many built-in functions, other standard spreadsheet features. $199.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. CP (Mar 86)

ProAnalysis is a powerful real estate investment analysis program. This program uses the Mac interface as well as any program yet published. Analytic power is combined with report generating so good you have to see it. Requires 512K+. $295. Technalysis Services, 14555 DeBell Rd., Los Altos Hills, CA 94022. CP

StatView is a high-powered statistical calculation package. Easily and efficiently handles all the common statistical techniques and many uncommon tests. Has a user-definable area as well. Easy to use and well documented. $199.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP (May 86)

StatWorks is a general-purpose statistics package that is both powerful and easy to use. Handles all standard tests and procedures. Single variable and multivariate statistics are supported. $125. Cricket Software, 3508 Market St., Philadelphia, PA 19104. NCP (May 86)

GRAPHICS & DESIGN

Animation Toolkit I lets users prepare "film clips" of moving objects which play back at varying speed, like old-fashioned flip books. Drawings are built pixel by pixel in frames, using some of the tools from *MacPaint*. They can be copied and altered easily from frame to frame. Each film clip plays repetitiously as it is being constructed. A limited animation tool, but a lot of fun. $49.95. Ann Arbor Softworks, 308½ S. State St., Ann Arbor, MI 48104. CP

Art Grabber with Body Shop is a desk accessory that lets users browse *MacPaint* documents, selecting and copying as they choose. Selections can be larger than screen size. Also included are *MacPaint* documents and templates to allow the creation of people in your art. $49.95. Hayden, 600 Suffolk St., Lowell, MA 01853. NCP

Chart can easily create area, bar, column, line, pie, scatter and combination charts. A total of 42 styles are provided. Limited to 100 data items (64 in a series) on a 128K Mac, approximately twice that on a 512K Mac. $125. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. CP

ClickArt Special Effects is a *MacPaint* enhancement desk accessory. Allows the user to distort, stretch, rotate and use perspective on *MacPaint* documents. A necessary addition for all serious users of *MacPaint*. $49.95. T/Maker, 2115 Landings Dr., Mountain View, CA 94043. NCP (Apr 86)

ColorPrint facilitates color printing on the standard ImageWriter. *MacPaint* files set up as overlays are read into *ColorPrint*, and the program controls proper positioning registration and colored ribbon switching. Good results require lots of hard work, but it's cheaper than an ImageWriter II. $49.95. Esoft Enterprises, PO Box 179, Owasso, OK 74055. NCP (Mar 86)

ComicWorks is a graphics wonder disguised as a comic book construction kit. Manipulate bit mapped graphics as independent objects, with up to 64 layers of matting. An amazing airbrush, multiple page capacity, full-screen drawing, special layering effects, an editable grid and two disks of gorgeous artwork round out this package. Needs better LaserWriter support. $79.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. NCP

Cricket Graph easily generates 12 graph types. Multiple windows can be displayed. *Graph* prints in up to 8 colors with up to 16 patterns. Self-generating macro formatting. *Switcher*, HFS, LaserWriter and plotter compatible. $195. Cricket Software, 3508 Market St., Philadelphia, PA 19104. NCP (Jun 86)

DaVinci Building Blocks features predrawn blocks of brownstone, garden, and skyscraper portions that can be cut and pasted together to form landscape and architectural drawings. Fun for even non-pro's. $79.95. Hayden, 600 Suffolk St., Lowell, MA 01853. NCP

DrawArt is the first *MacDraw* clip-art disk. Unfortunately, the assortment of graphics is too ragtag and the quality of images ranges from great to terrible. No image index. $49.95. Desktop Graphics, 400 Country Drive, Dover, DE 19901. NCP (Oct 86)

Easy3D is a three-dimensional, solid modeling masterpiece. Four variable light sources, powerful sculpting tools and an exquisite user interface make this program a must-have for Mac graphics enthusiasts. Requires a 512K+ Mac. Enabling Technologies, Inc., 600 South Dearborn, Chicago, IL 60605. NCP (May 86)

Fluent Fonts is a two-disk collection of fonts. Forty-nine different items are included. All install easily in user Systems. Most are well executed and some are extraordinarily nice. This is a real bargain for font lovers. $49.95. Casady, PO Box 223779, Carmel, CA 93922. NCP

Fontastic is the best font editor now available for the Mac. Features a large editing window with a grid to make positioning easy. Select letters to edit by clicking on a matrix of the font. Allows scaling of existing fonts and previewing the various styles (italic, bold, etc.). $49.95. Altsys, PO Box 865410, Plano, TX 75086. NCP (Dec 85)

Fontographer is a complex, but excellent laser font creator. The fonts created have 300 bits per inch resolution. The fonts are actually downloadable PostScript files. $395. Altsys Corp., PO Box 865410, Plano, TX 75086. CP

FullPaint is an expanded version of *MacPaint*. Features include full-screen drawing, multiple documents open simultaneously, brush editing, movable tool palettes, special text effects and much more. It fills the gaps left by *MacPaint*. $99.95. Ann Arbor Softworks, 308½ State St., Ann Arbor, MI 48104. CP (Jun 86)

Home Design is a home planning tool that includes three disks full of *MacPaint* files of household items needed to design a home. *Art Grabber Installer* is included for easy manuvering of items. The professional home designer, as well as the amateur will feel at ease using this program. $79.95. Hayden, 600 Suffolk St., Lowell, MA 01854. NCP (Jun 86)

Human Forms allows users to create perfectly proportioned humans in any posture or position. Contains over 1000 separate body parts. Tiny X marks make limb, head and detail placement perfect. Requires *MacPaint*. $59.95. Bert Monroy, 205 Luquer St., Brooklyn, NY 11231. NCP

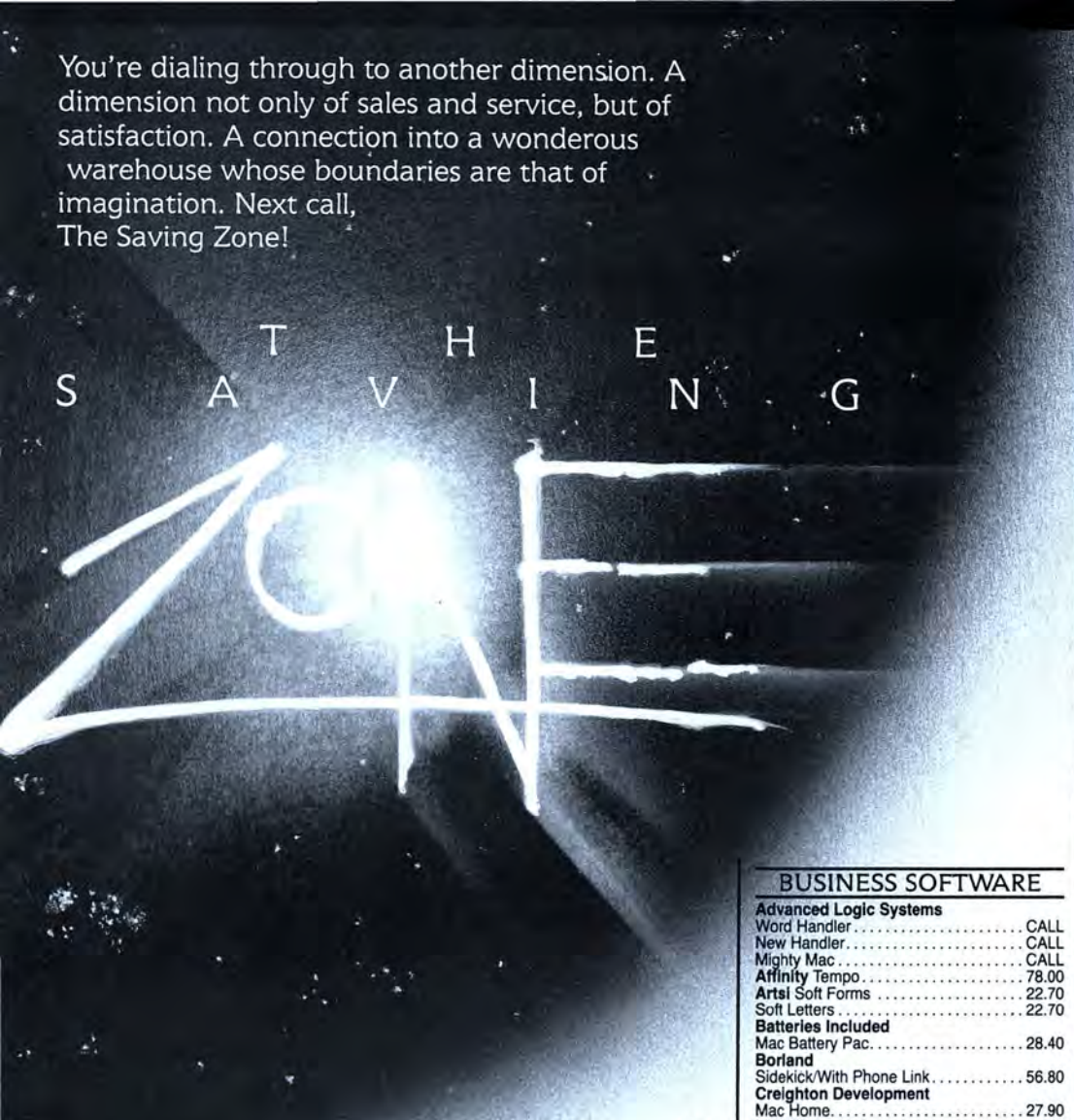
Icon Switcher changes icons for applications and the documents they generate, permitting you to customize icons for personal work. New icons can be built pixel by pixel in the program or created in *MacPaint* and pasted in. $19.95. PBI Software, 1155B-H Chess Drive, Foster City, CA 94404. NCP

LaserWorks is high-resolution font and graphics editor, producing LaserWriter-compatible end products. Its numerous well-designed features make it suitable for users of all levels, from beginners to pros. Has a superb manual and tutorial. Requires 512K+ and external drive or hard disk. $299. EDO Communications, 63 Arnold Way, W. Hartford, CT 06119. CP (Sep 86)

The Mac Art Dept. is a collection of over 150 graphic images ranging from foods to hands holding signs to borders. Best suited for letterheads, memos, other business use. $39.95. Simon & Schuster, Computer Software Div., 1230 Ave. of the Americas, New York, NY 10020. NCP (Mar 86).

Mac-a-Mug is an Identikit type program for creating faces from facial feature files. Uses scroll bars that are slow and jerky. Lots of creative fun. 512K+ Mac required. $59.95. Shaherazam, PO Box 27731, Milwaukee, WI 53226. CP (May 86)

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MINIFINDERS



MacDraft is an object-oriented graphics program. It sports advanced features such as variable scaling, single degree rotation, complex arcs and a FatBits-like magnification mode. It has some annoying quirks and a few bugs, and is best used to complement *MacDraw*, not replace it. $239. Innovative Data Design, 1975 Willow Pass Rd., Concord, CA 94520. CP (Feb 86)

MacDraw is an object-oriented structured graphics program. Can be used to design forms, create presentation materials and do technical illustrations. Drawing sizes up to 8 feet by 10 feet are possible. Text can be easily generated and integrated in the graphics. *MacPaint* documents can be pasted into *MacDraw*, but not manipulated. $195. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Nov 85)

MacModel is an economical 3D package with shading. Somewhat sketchy Mac interface, shading speed slow (but acceptable), grainy image resolution. On-line help screens are a welcome addition. Frequent updates and low price make this a reasonably good buy. $40. A.P.P.L.E. CO-OP, 290 SW 43 St., Renton, WA 98055. NCP (Aug 86)

MacPaint is the graphics program that started a whole new genre. Still the best freehand graphics tool. Version 1.5 supports 512K+ Macs and the LaserWriter. Multiple tools, patterns and features too numerous to describe. A work of art for artists. $125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Nov 85)

MacPublisher is a tool for creating newsletters. Allows multiple page issues. Layout is fairly easy but hard to do precisely. Runs on a 128K Mac but is slow; a 512K should be considered a requirement. Printer support, including LaserWriter, is good. Ideal for informal newsletters, not yet a professional tool. $99.95. Boston Software Publishers, 19 Ledge Hill Rd., Boston, MA 02132. CP

MacPublisher II is the souped-up version of *MacPublisher*. Allows *MacWrite* and *Word* files to be imported and edited from within the program; saves each element separately; allows up to 96 pages in an issue (limited by memory); supports kerning, borders, cropping, telecommunications, command keys and a wide variety of printers; and it runs on 128K, single-drive Macs. $195. Boston Software Publishers, 1260 Boylston St., Boston, MA 02215. CP

Mac3D is a very Macish 3D drawing package. Easy to use, many primitive shapes, good LaserWriter support, and lots of 3D goodies will please Mac graphics fans. Not a fully professional CAD package, though, and no shading. $195. Challenger Software, 18350 Kedzie Ave., Homewood, IL 60430. NCP

Magic Slate is a graphics and design program with built-in special effects and custom features. Fun but sometimes difficult to use. Great for pattern design, block and geometric graphics and watercolor-style "washes." Requires 512K+. $99. Devionics, PO Box 2126, Covina, CA 91722. CP (Feb 86)

M.U.D (MacroMind Utility Disk) is a disk of various utilities for *MusicWorks* and *VideoWorks* owners. It also contains *CheapPaint* and *Art Grabber+*, two graphics desk accessories that are musts for graphics enthusiasts. Hayden, 600 Suffolk St., Lowell, MA 01854. NCP (Feb 86)

PageMaker is an advanced layout and makeup program. Can easily create multiple page documents. Output is optimized for LaserWriter. Good documentation. $495. Aldus, 411 First Avenue South, Seattle, WA 98104. CP (Nov 85)

Phoenix 3D is an economical 3D drawing package, with features that belong in a much more expensive program. Multiple light sources, fine control over object placement and orientation, a good selection of shapes and numberous rendering options are available and easy-to-use. $39.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP (Oct 86)

PictureBase is a program and accompanying desk accessory for organizing *MacPaint* and *MacDraw* elements and files. Graphics are organized into libraries, and can be searched for by keywords. A multitude of display options, and an advanced interface make this package indispensable for quick access to graphics files. $69.95. Symmetry Corporation, 761 E. University, Mesa, AZ 85203. NCP (Jun 86)

PosterMaker can enlarge *MacPaint* drawings by up to 3200 percent. Full-screen cut and copy are supported, so any portion of a *Paint* document can be selected and scaled. Borders can be added automatically. Includes some nice digitized graphics files. $39.95. Strider Software, Beecher Lake Rd., Pembine, WI 54156. NCP (Jul 86)

ReadySetGo is a page makeup program for 512K+ Macs. Users build up pages from blocks of text, graphics and rules. Resizing and scaling of blocks are supported. Each block can be precisely positioned. Text and art may be pasted in from another source or created within the program. Good LaserWriter support. $195. Manhattan Graphics, 163 Varick St., New York, NY 10013. NCP (Apr 86)

Slide Show Magician 1.3 is useful for creating full screen audio-visual presentations on the Mac. Frame branching, improved editing capabilities, external cassette recorder synchronization and digitized sound capabilities make this much more powerful than the original. $59.95. Magnum, 21115 Devonshire St., Chatsworth, CA 91311. CP (Mar 86)

Storyboarder produces working animated storyboards for use in film and video production. Imports graphics from *MacPaint;* allows screen masking to simulate television, 35mm or 70mm screen widths; allows limited animation and special effects. Storyboards can be printed in several formats. $495. American Intelliware, 330 Washington St., Marina Del Ray, CA 90292. CP?

VideoWorks is a full-featured animation package. Professional quality animations are easily accomplished using the tools provided. Features frame-by-frame and real-time modes. Comes with an art disk of predrawn images and *Art Grabber* (which allows the user to use any part of a *MacPaint* document in *VideoWorks*). Includes many special video and sound effects, and on-disk examples. $99.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP (Nov 85)

World-Class Fonts! comes in two volumes of three disks each. Includes all the *Mac the Knife* fonts and a lot more, including 2 useful utilities. This is now the best collection of ImageWriter fonts available. Each volume: $39; both volumes: $59. Dubl-Click Software. 18201 Gresham St., Northridge, CA 91325. NCP

COMMUNICATIONS

HomePak is a package consisting of *HomeTerm*, an excellent simple telecommunications program with strong macro features; *HomeFind*, an electronic filer as bad as *HomeTerm* is good; and Apple's *Edit*, a simple, non-HFS-compatible text-file editor. $49.95. Batteries Included, 30 Mural St., Richmond Hill, Ontario L4B 1B5, Canada. NCP (Sep 86)

InTouch comes with its own communications command language able to do unattended sessions. Supports Xmodem, MacBinary and Kermit. Has a macro key function. Many sample set up documents and command language files provided. $145. Palantir, 12777 Jones Rd., Houston, TX 77070. CP (Prem)

MacTerminal provides basic telecommunications and terminal emulation for the Mac user. Doesn't have macros nor any sort of auto redial/auto logon capability. Best for those needing faithful VT100 or IBM 3278 emulation — it is superb at those. $99. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Prem)

Microphone is a high-powered terminal program that's easy enough for novices. Very powerful command language allows full automation of communications, if desired. $74.95. Software Ventures, 2907 Claremont Ave., Berkeley, CA 94705. NCP (Jun 86)

Red Ryder is a full-featured telecommunications program that supports MacBinary, Xmodem and Kermit. Remote service procedures, auto procedure writer and keyboard macros allow automation of many operations. It is shareware and a

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real bargain. $40. The FreeSoft Corp., 10828 Lacklink, St. Louis, MO 63114. NCP (Prem)

Smartcom II balances power and ease of use. Capable of ★★★★★ unattended operation and has a very powerful command language. Supports MacBinary, Xmodem, and Hayes Verification protocols. The large screen buffer can easily be archived both to the printer and to disk. $149. Hayes, 5923 Peachtree Industrial Blvd., Norcross, GA 30092. NCP (Prem)

Telescape is the power telecommunicator's terminal program. Can ★★★ be configured to emulate any terminal and has all the advanced features (except unattended operation). The documentation does not adequately explain the many features and much of the power will be unavailable to all but the pros (who can figure it out on their own). $125. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP (Prem)

VersaTerm features include DEC VT100 and VT52, Tektronix 4014 ★★★★★ graphics terminal and Data General DG200 emulation. Supports Xmodem and MacTerminal Xmodem protocols and MacBinary. *VersaTerm* is easy to use and well documented. $99. Peripherals, Supplies & Computers, 2457 Perkiomen Ave., Mt. Penn, PA 19606. CP (Prem)

WORD PROCESSORS

Document Compare allows users to compare any two *MacWrite* ★★★ 4.5, ASCII or MDS documents. Differences in spelling, punctuation, formatting and wording are detected. Differences appear highlighted and the documents can be printed out with differences highlighted. $99. The Model Office Company, Inc., The Gooderham Flatiron Building, 49 Wellington Street East, Toronto, Canada M5E 1C9. CP (May 86)

EgWord is a *MacWrite* lookalike that allows full Japanese kanji ★★★ word processing on the Mac. Does a superlative job of making Japanese text-entry as easy as possible, given the difficulties of the language. Great for students of Japanese, may find a place in international business as well. $300. Counterpoint Systems, PO Box 1685, Cambridge, MA 02138. CP (Apr 86)

Just Text is a professional level word processor and page makeup ★★★★★ program that generates PostScript output. Comes with a set of LaserWriter utilities that allow total manipulation of art and text. Requires LaserWriter or other PostScript compatible output device. $195. Knowledge Engineering, GPO Box 2139, New York, NY 10116. NCP (Dec 85)

LaserFonts are new fonts designed for the LaserWriter. Users ★★★★ download them to their machines. Very high quality and very simple to use. *Willamette* (in Medium, Light and Extra Light) looks like Avant Garde. *MicroFonts* provides tiny, expanded and condensed versions of the LaserWriter's own fonts. $29.95 each. Century Software, 2306 Cotner Ave., Los Angeles, CA 90064. NCP

Liberty Spell Checker is a fast, effective interactive checker. The ★★★★ dictionary is smaller than average, but well chosen. Unfortunately, it has a few misspelled words. $59.95. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP

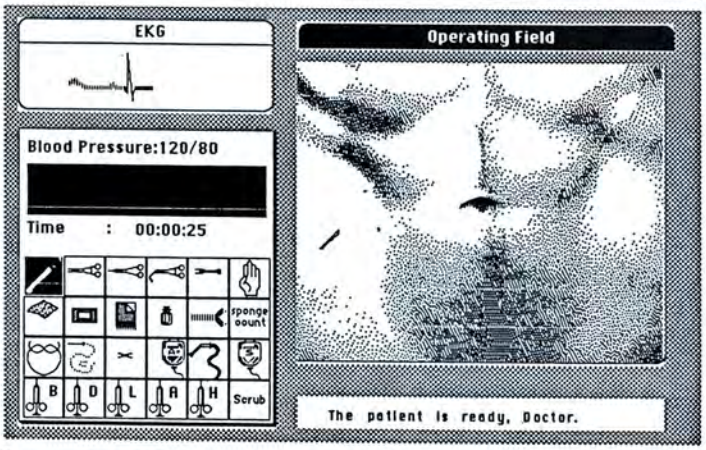
MacIndexer is a good writer's utility that takes much of the ★★★★ mechanical work and time out of preparing an index. Works with *MacWrite* and *Word*. Can generate word frequency counts. $49.95. Boston Software Publishers, 1260 Boylston St., Boston, MA 02215. CP (Jul 86)

MacLightning is an interactive spelling checker that is both very ★★★★ fast and has an extensive, well thought out dictionary. Exists in the *System* as a desk accessory. $99.95. Target Software, 14206 SW 136th St., Miami, FL 33186. NCP

MacWrite is the basic word processor that comes with the Mac. ★★★★ While it doesn't have every bell and whistle, it is more than

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adequate for most users. Features include document size limited by disk space, global search and replace, page numbers indicated in the scroll bar and excellent LaserWriter compatability. $125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

MegaForms is a well designed forms generator and processor. ⭐⭐⭐ Forms design is easy. Can use data from *MegaFiler*. The form filling and print functions are slow, possibly too much so for large scale use. $495. Megahaus, 5703 Oberlin Dr., San Diego, CA 92121. CP (Feb 86)

QuickWord is a word processing accessory that adds sophisticated glossaries to *MacWrite*. Simple to install and use, yet powerful and efficient. $49.95. EnterSet, 410 Townsend St., San Francisco, CA 94107. NCP

Spellswell is an effective and powerful standalone spelling ⭐⭐⭐⭐ checker. It has many advanced features such as capitalization and homonym checking and comes with a large, well-chosen dictionary. Full-featured, easy to use, with keyboard equivalents for menu commands. $49.95. Greene, Johnson, Inc., 15 Via Chualar, Monterey, CA 93940. NCP (May 86)

Word is a power word processor for the Mac. It has just about every ⭐⭐⭐⭐ feature your heart could desire. Supports keyboard commands as well as the mouse. Does mail merge and multicolumn text. Integrates with the rest of the Microsoft line. $195. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. CP (May 86)

Word Handler is a word processor with elements of *MacWrite* and ⭐⭐⭐⭐ *Word*. Reads *MacWrite* files, formats by section, multiple windows. Can delete, rename, etc., without quitting. Has case change, forms generator, flexible printing options and glossary. Slow, and original release does not support graphics or the Clipboard. $79.95. Advanced Logic Systems, 1283 Reamwood Ave., Sunnyvale, CA 94089. NCP (Oct 86)

ORGANIZATIONAL TOOLS

Acta is an outline processor in desk accessory format. It has ⭐⭐⭐⭐ practically all the power of a standalone program, and then some. Can save files as *Acta* outlines, *MacWrite* or text files. A must-have for those who do outlining. $59.95. Symmetry, 761 E. University Dr., Mesa, AZ 85203. NCP (Jul 86)

Calliope is a new type of outlining program. Chunks of information ⭐⭐⭐ are manipulated as small "light bulbs" containing text. Related elements can be graphically connected, and their text information viewed in hierarchical order. Text files can be created for *MacWrite* editing. $59.95. Innovision, PO Box 1317, Los Altos, CA 94023. NCP (Sep 86)

DecisionMap organizes data to facilitate decision making. Unique ⭐⭐⭐ weighting abilities make this a powerful tool. The decision analysis process is long and some times complex, but never difficult. $145. SoftStyle, 7192 Kalanianole Hwy., Honolulu, HI 96825. CP

MacProject allows a user to plan and track a project from ⭐⭐⭐ beginning to end. Uses CPM to produce schedules with start and finish dates for each task. Can report on resource interdependencies and generate all needed printed reports. $125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Mar 86)

MacSpec is a specification writing tool, a cross between word and ⭐⭐⭐ outline processors. It can automatically number and indent headings, and renumber everything when lines are moved. The text under headings can be handled and formatted as though you were using a simple word processor. HFS-compatible. $199.95. LM Software, PO Box 93, Belmont, CA 94002. NCP (Oct 86)

MaxThink is an outline and idea processor that focuses on ⭐⭐⭐⭐ thinking skills. Helps you establish priorities, evaluate

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ideas, synthesize information. Some unique features and an innovative manual. $89. MaxThink, Inc., 230 Crocker Ave., Piedmont, CA 94610. NCP

Micro Planner is a heavy-duty project planner. Excellent, but slow, ½½½ at the mechanics of project planning. Reports are its weakness. Speed is much improved when a hard disk is used. $395. MicroPlanning Software USA, 235 Montgomery St., San Francisco, CA 94104. CP (Mar 86)

Mindsight is a professional level decision support and business ½½½½ planning package. Can work with IFPS on mainframes, and is able to transmit models in both directions. Powerful and easy to use. Requires 512K+. $195. Execucom Systems, PO Box 9758, Austin, TX 78766. CP

More is an incredibly powerful outline processor with gobs of great ½½½½½ features: instant charts, math capabilities, multiple windows, font and style control, templates and more. Prints outlines in any of several standard formats, even in color. Requires 512K+. $295. Living Videotext, 2432 Charleston Rd., Mountain View, CA 94043. NCP (Sep 86)

ods/Consultant is a program that lets users organize ideas and ½½½ helps in thinking through and solving problems. Easy to use thanks to extensive use of icons and on-screen help. This program introduces some low-level AI (artificial intelligence) concepts. $200. Organization Development Software, 1011 E. Touhy Ave., Des Plaines, IL 60018. CP (Apr 86)

ThinkTank 128 is a basic outline processor. The interface is not ½½½ the standard Mac interface, but is simple to use and efficient. Printer support is limited, but files can be printed in a draft-style mode. Only for 128K owners; 512K+ owners should get *ThinkTank 512*. $99.95. Living Videotext, 2432 Charleston Rd., Mountain View, CA 94043. CP

ThinkTank 512 is a very fast and intuitive organizational tool that ½½½½ can handle word processing chores in the midst of structuring a plan or outline. Full keyboard control is possible. Can store and paste graphics into outlines. Slide show features allows high-quality presentations to be created. Good report formatting and printing capability. $195. Living Videotext, 2432 Charleston Rd., Mountain View, CA 94043. CP (Jan 86)

DESK MANAGERS

BatteryPak is a set of 8 handy desk accessories including ½½½½½ scientific and RPN calculators, a background text file printer and a 250-page note pad with search and phone dialing capabilities. *Disk Tools* is the best DA currently available. $49.95. Batteries Included, 30 Mural St., Richmond Hill, Ontario, L4B 1B5, Canada. NCP (Dec 85)

Front Desk lets small businesses and offices easily keep track of ½½½ personnel schedules, activities and payments. The program can keep track of up to 15 employees, functioning as a day-, week- and month-at-a-glance calendar. $149.95. Layered, 85 Merrimac St., Boston, MA 02114. CP (Dec 85)

MacOfflx combines many of the simple and necessary office ½½½½ functions in one easy-to-use package. Features include simple word processing, forms design, form letter production, report generation and filing. Good design nearly makes the manual unnecessary. $79. Emerging Technology, Inc., 4760 Walnut St., Boulder, CO 80301. CP

Mighty Mac is a personal data manager for those with lots of ½½½½ appointments to keep track of. Features include an on-screen calendar, a Directory, Reminder function (with audio and visual alarm), and an Event function.$59.95. Advanced Logic Systems, 1195 E. Arques Ave., Sunnyvale, CA 94086. CP (Aug 86)

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graphic symbols makes this program the easiest to use of its type. $129.95. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP (Prem)

Quickset is a set of desk management and organizational tools ⭐⭐⭐ that can be used as desk accessories or applications. Modular design allows users to add only selected items to System disks. Functions include note filer, card filer, calendar, phone dialer, financial and statistical calculators and a file encryptor. $49.95. EnterSet, 410 Townsend St., San Francisco, CA 94107. NCP (Dec 85)

Sidekick is a set of desk organization applications and accesso- ⭐⭐⭐⭐ ries. Functions include phone dialer and logger, desk accessory terminal, calculator, clock, editor and more. When required resource files are included modules take up a lot of disk space, and are best used with a hard disk. $84.95. Borland International, 4585 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Dec 85)

Smart Alarms is the best reminder system for the Mac. Easy to ⭐⭐⭐⭐⭐ use, versatile, and, well, smart. This self-running DA automatically reminds you of anything you enter into its Reminder file, giving you a wide range of useful advance warning options. Reminders can also be set to recur at specific intervals. Comes with an *Appointment Diary* DA and the *Sleep* public domain DA. $49.95. Imagine Software, 2000 Center St., Berkeley, CA 94704. NCP (Oct 86)

Top Desk is a set of 7 self-installing (and self-removing) DAs. ⭐⭐⭐⭐ Menu Key adds Command key sequences to programs, View allows looking at and moving data between up to 8 *MacWrite* documents, BackPrint allows background printing from most applications, Shorthand adds a glossary, Blank is a screen saver, Encrypt scrambles files for protection, and Launch transfers to another application. $59.95. Cortland Computer, PO Box 9916, Berkeley, CA 94709. NCP (May 86)

UTILITIES

Accessory Pak 1 is a set of useful applications and utilities. *Paint* ⭐⭐⭐⭐⭐ *Cutter* alone is worth the price. That program allows users to browse and manipulate full page *MacPaint* documents. $39.95. Silicon Beach, 11212 Dalby Pl., San Diego, CA 92126. NCP (Nov 85)

Copy II Mac was one of the first back-up programs available for the ⭐⭐⭐⭐⭐ Mac. Does efficient sector and bit copies and in its latest version can back-up virtually all Mac software. Features graphic displays of copy progress. Comes with *MacTools*, a multiuse utility that can recover many damaged files. $39.95. Central Point Software, 9700 S.W. Capitol Highway, Portland, OR 97219. NCP (Apr 86)

Disk Ranger is a speedy cataloguing program that doubles as an ⭐⭐⭐⭐ efficient labelmaker. Comes with pinfeed labels. Works with regular and hard disks. Can catalog HFS systems. $49.95. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP (Mar 86)

Dubl-Click Calculator Construction Set lets users design per- ⭐⭐⭐⭐⭐ sonalized calculators with a variety of standard and special functions. Multiple functions can be attached to a single key. Finished calculators can be saved as installable desk accessories or as clickable applications. $59. Dubl-Click Software, 18201 Gresham St., Northridge, CA 91321. NCP (Apr 86)

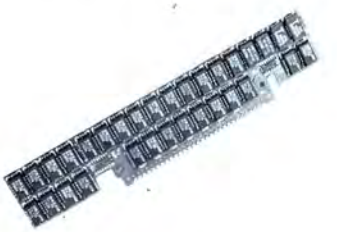
Fedit Plus is the file and disk editor for everyone, from newest Mac ⭐⭐⭐⭐⭐ owner to oldest. It can do more for your disks and files than any other application. Write boot blocks, modify a file's *Finder* attributes, recover deleted MFS files; *Fedit Plus* can do it. If you own a Mac, get it. HFS-compatible, although some features do not function. $40. MacMaster Software, 939 E. El Camino Real, #122, Sunnyvale, CA 94087. NCP

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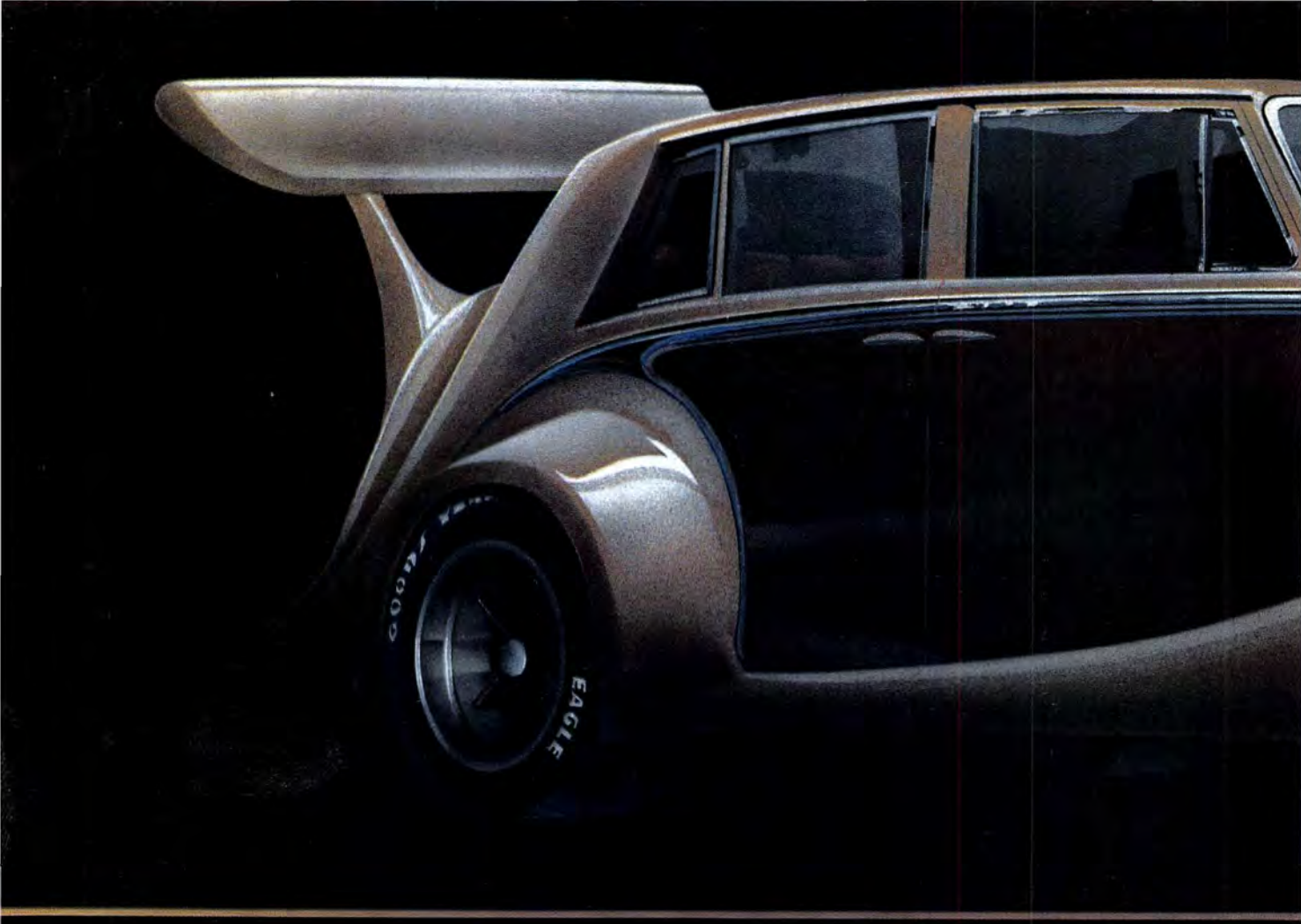
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Hard Disk Util uses patch files to allow users to mount and run ¢¢¢¢ specified programs on their hard disks. The list of patches is constantly expanding. $89.95. FWB Software, 2040 Polk St., San Francisco, CA 94109. NCP

HFS Locator Plus is *the* essential HFS desk accessory. It can ¢¢¢¢ search for a file by name or date of creation, create folders, move files from one folder to another, set a program (or document) to launch while in an application, plus it supports the standard file rename, delete, copy, and get info functions. HFS/hard disk users should own this desk accessory. $34.95. PBI Software, 1111 Triton Dr., Foster City, CA 94494. NCP (Sep 86)

MacBooster is a disk-cache program that adds a great deal of ¢¢¢¢ operating speed to a 512K Mac. It installs easily from its master disk. Can increase the speed of your 512K Mac by 2 to 3 times. Not for Mac Plus. $50. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP

Mac Disk Catalog II is a utility that will quickly organize a ¢¢¢¢ moderate size disk library. Easy to use with powerful reporting and label-making features. $49.95. New Canaan MicroCode, 136 Beech Rd., New Canaan, CT 06840. NCP (Dec 85)

MacLabeler lets users instantly index and print labels for all the ¢¢¢¢ disks in a burgeoning collection. Choose border type and orientation of your label; index by folder or document. Starter set of labels is included. $49.95. Ideaform, PO Box 1540, Fairfield, IA 52556. CP (Prem)

MacLink lets users transfer data between Macs and PCs. Simple ¢¢¢ to install and run, high-performance software. Can do special format transfers such as *1-2-3* to *Multiplan* and *WordStar* or *MultiMate* to *MacWrite*. Contains both Mac and PC disks, interface cable is optional. Has Mac and MS-DOS disks. $125, $155 with 8-ft interface cable. DataViz, 16 Winfield St., Norwalk, CT 06855. NCP

MacMate! combines RAMdisk and print spooling functions in a ¢¢¢¢ compact package. Both parts are efficient, work well and have on-screen help. $49.95. SMB Development Associates, PO Box 3082, Chatsworth, CA 91311. NCP

MacNosy is a global disassembler. A very advanced user can use ¢¢¢¢¢ this program to look into the code of virtually any program. This advanced tool can take you places no other Mac program could dream of going IF you have the skill to guide it. The documentation is sparse. For pros only. $85. Jasik Designs, 343 Trenton Way, Menlo Park, CA 94025. NCP

Mac + II lets you run Apple II software on the Mac. Emulation ¢¢¢ speed is only 35 to 45 percent of a real Apple II, so graphics especially suffer. Games also run slow. Runs AppleWorks (Apple II integrated software). Good for ex-Apple II owners who have large software collections. $149.95. Meacom, PO Box 272591, Houston, TX 77277. CP

MacQwerty is a set of three keyboard utility programs. *Reconfi-* ¢¢¢¢ *gure* allows users to assign any character to any key, *Standard* sets up a normal qwerty keyboard and *Dvorak* changes the key arrangement to the very efficient Dvorak layout. $35. Paragon Courseware, 4954 Sun Valley Rd., Del Mar, CA 92014. NCP (Jul 86)

MacServe converts a Mac and a hard disk into a disk and print ¢¢¢¢¢ server. Uses the AppleTalk network and is easily hooked up. Users can partition the hard disk into multiple volumes (read-only for common access and read-write for private access). Runs in the background, so users can work on all machines in the network. Comes with a backup and restore utility. $250. Requires 512+ or Mac XL. Infosphere, 4730 SW Macadam, Portland, OR 97201. CP

MacZap is a three-part disk and memory utility. It can be used to ¢¢¢¢ recover some damaged files and disks, compare disks,

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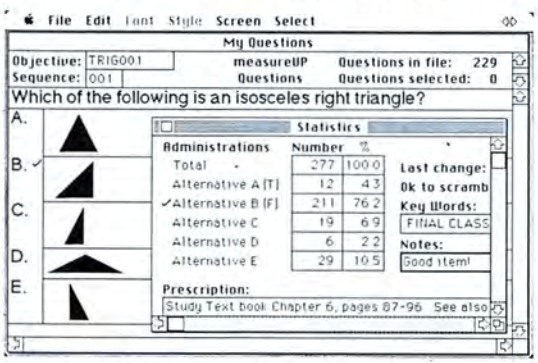
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analyze disk structure and make back-up copies of most disks. $60. Micro Analyst, 5802B Gloucester, Austin, TX 78723. NCP (Jan 86)

myDiskLabeler is an excellent label making program. It can read ♦♦♦♦ directories, or use large or small icons, or anything else the user desires. This simple and intuitive program comes with 54 precut labels on pinfeed paper. HFS compatible. $44.95; with color printing ability (on the ImageWriter II), $54.95. Williams and Macias, PO Box 19206, Spokane, WA 99219. NCP (Aug 86)

'Ncryptor is a simple, safe program that lets users password their ♦♦♦♦ files. The same program is used for encoding and decoding. This is the best product in its category. $39.95. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP

Packer is a simple utility that compresses files. It can be used to ♦♦♦♦ save disk space and also protect files. Typical space savings range from 20 to 50% depending on the original file type and size. This is the best program of its type so far. $29. Bobbing Software, 67 Country Oaks Dr., Buda, TX 78610. NCP (Jun 86)

PC to MAC and BACK has both Mac and MS-DOS disks. This ♦♦♦ program easily and efficiently transfers text and other data between PCs and Macs. Fortunately, the documentation is excellent. Does special format transfers such as *WordStar* to *MacWrite*. Includes a cable for direct Mac to PC connections. $149.95. dilithium Press, 8285 SW Nimbus, Beaverton, OR 97005. NCP

Quick & Dirty Utilities, Volume One is a disk chock full of the ♦♦♦♦♦ handiest programs you have ever bought. Included are a super disk cataloguer, a desk accessory mover and more. Several desk accessories including a menu bar clock and a terminal are on the disk. "File Info" and "Q&D Filer" are two file management desk accessories that you'll wonder how you got along without. $39.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP (Nov 85)

Switcher is Andy Hertzfeld's contribution to Mac productivity. This ♦♦♦♦♦ program lets users run several programs at once (up to 8 on a 1-megabyte or larger machine). Switching between the programs is near instantaneous. Slick and easy to use; every 512K Mac user should get it. Requires 512K+. $19.95 from Apple, free from MAUG on CompuServe, from Delphi and included with some third-party applications. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

TMON is *the* debugger for the Mac. This isn't open to question. ♦♦♦♦♦ *TMON* is simply the best. Comes with the latest version of Darin Adler's Extended User Area. $100. ICOM Simulations, 626 Wheeling Rd., Wheeling, IL 60090. NCP

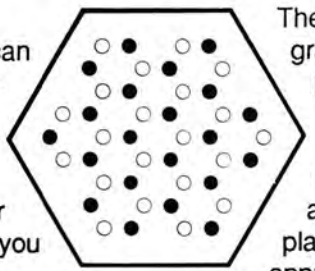
TurboDownload is a desk accessory designed specifically to ♦♦♦♦♦ increase the speed of Xmodem data transfers from national databases to your Mac. Speed increases range upward from 50% to over 300% at 2400 baud. $39.95. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP

Twelve-C Financial Desk Accessory brings all the power and ♦♦♦♦ functionality of a Hewlett-Packard 12C programmable calculator to your desktop. Can be programmed and all registers can be viewed while calculator is running. $39.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP

II in a Mac is a graphically oriented Apple II emulator with unique ♦♦♦ features, such as text and graphics copy from Apple screen to Mac Clipboard. 40 column screen is too small, 80 column better. Suffers speed problems associated with "virtual machine" emulation. $69. Micro-W Distributing, Inc.,1342B Route 23, Butler, NJ 07405. CP

TypeNow is a desk accessory that allows the Mac and ImageWriter ♦♦♦♦ to function as an electronic typewriter. Type can be placed into blanks in complex forms easily. Typing can be recorded

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and played back or "boilerplate" stored and used as needed. $39.95. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP (Jan 86)

LANGUAGES

Aztec C is a C language program system that will appeal to users ¢¢¢¢ with a UNIX background. It uses many UNIX conventions and in the more expensive versions comes with standard UNIX utilities, including the VI editor. Good, solid system. $199 basic system, can't produce standalone applications; $299 development system, can produce standalone applications; $499 commercial system, development system plus utilities and strong technical support by publisher. Manx Software Systems, PO Box 55, Shrewsbury, NJ 07701. NCP (May 86)

MacAsm is a software development system that allows programs ¢¢¢ to be written in assembly language. Programmers can assemble, edit and test software, and an integrated resource compiler lets independent applications run from their own icons. $125. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP

Mac C is a good, highly Mac-oriented implementation of this •••• popular development language. Assembler and linker built-in. $375. $425 with Toolkit and floating point package. Consulair, 140 Campo Dr., Portola Valley, CA 94025. NCP

MacExpress is a development environment or shell. Programmers ¢¢¢ use it to save time and effort when developing standalone applications for the Mac. Easy to use for those with a strong technical background. $50 test drive package, $495. AL-Soft, Inc., PO Box 927, Spring, TX 77383. NCP (Feb 86)

MacForth is an implementation of the popular Forth programming ¢¢¢ language. Level 1 is a simple, introductory version with limited support of the Mac Toolbox. Excellent tutorial and references sections in the manual. Level 2 supports the Mac Toolbox fully. Level 3 extends the language so that professionals can produce standalone applications. All levels are supported by the publisher via telephone and electronic BBSs (the publisher even has a private SIG on CompuServe). $149 (Level 1), $249 (Level 2), $499 (Level 3). Creative Solutions, 4701 Randolph Rd., Rockville, MD 20852. NCP

Mach1 is a multitasking implementation of Forth that allows local ¢¢¢¢ variables and text files. Can create standalone applications. Several windows can be up with different operations in each, operating concurrently. Execution is fast. $79.97. Requires 512K. Palo Alto Shipping, PO Box 7430, Menlo Park, CA 94026. NCP (Apr 86)

Macintosh 68000 Development System is a fairly traditional ¢¢¢¢ assembly language package. The two-disk set provides an excellent editor (*Edit*), an efficient assembler, a linker, an executive, a resource compiler called *RMaker*. The files included in this two-disk set have all the basic equates, process definitions, and trap calls. $195. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

MacIntosh Pascal is Apple Computer's version of this very popular ¢¢¢¢ programming language. Loaded as it is with innovative teaching features, this interpreter is an excellent introduction to Pascal. The documents are mostly references, get a good tutorial textbook. $125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. CP

MacScheme is a LISP dialect with "artificial intelligence" capabili- ¢¢¢ ties. Has a large appetite for RAM. Interpreted language with Toolbox access limited to a small part of QuickDraw. Includes many examples and a LISP tutorial. $125. Semantic Microsystems, 4470 S.W. Hall St., Beaverton, OR 97005. CP? (Jun 86)

Megamax C is an easy to use, full version of C. Has a compiler, ¢¢¢¢ linker, disassembler, editor and much more. Good for



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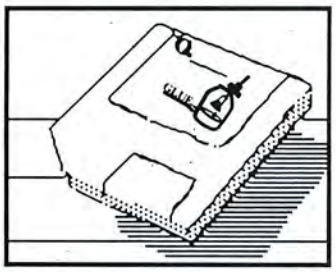
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beginners. Excellent documentation. $299.95. Megamax, PO Box 851521, Richardson, TX 75085. NCP

Microsoft BASIC was the Mac's first programming language. This ♦♦♦♦ interpreter (it's not a compiler) now supports the Toolbox and the whole Mac interface can be implemented in your programs. For nonprogrammers there are lots of programs available (in user group libraries and magazines) to run. There have been several versions. $150. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. NCP

Microsoft Logo, from Microsoft's MacLibrary, written by LCSI. An ♦♦♦♦ excellent implementation of Logo, taking full advantage of the Mac's user interface. Uses three windows. Turtle looks like a turtle, and its screen actions are very precise. Windows can be resized and moved about. $124.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. NCP

QUED (Quality Editor for Developers) is the ultimate source ♦♦♦♦ code editor. Loaded with useful and well thought out features, it will make any programmer's life much easier. It is not a word processor, however. $65. Paragon Courseware, 4954 Sun Valley Rd., Del Mar, CA 92014. NCP (Mar 86)

TML (MacLanguage Series) Pascal is a good Pascal compiler, ♦♦♦♦♦ capable of producing standalone programs. Can use most existing Lisa Pascal programs with only slight modification. Requires 512K. $99.95. TML Systems, PO Box 361626, Melbourne, FL 32936. NCP (Jun 86)

EDUCATION

ChipWits is a combination game and teaching tool. Players create ♦♦♦♦♦ programs to maneuver robots through a set of 8 mazes. The programs are written in *ChipWit*'s built-in icon-based programming language (IBOL). IBOL is a nearly perfect introduction to programming for nonprogrammers. $49.95. Brain-Power, 24009 Ventura Blvd., Calabasas, CA 91302. NCP

DietMac is a database consisting of about 800 foods with ♦♦♦♦ nutritional information, from which to choose for planning daily menus. The Modify Food Data option allows users to customize and update data. Some on-screen help. $79. Tess Data Systems, Inc., 17070 Red Oak Drive, Houston, TX 77090. CP (May 86)

KidsTime is a package of five quality educational programs for ♦♦♦♦ children between the ages of 3 and 12. The programs all have adjustable difficulty levels. Some use speech and one is a nice intorduction to musical notes. Sparse documentations keeps the package from earning the fifth mouse, but shouldn't stop you from getting it for your kids. $49.95. Great Wave Software, PO Box 5847, Stanford CA 94305. CP (Oct 86)

MacChemistry is a two-disk set consisting of a titration program ♦♦♦ (predetermined compounds, not user modifiable), a periodic table program, *MacNest* (a scrapbook with indexing), and a disk of *MacPaint* files depicting everything from lab equipment to molecular structures of many solutions and compounds. *MacNest* is of general appeal. $145. Fortnum, 31 W. Sierra Madre Blvd., Sierra Madre, CA 91024. NCP

MacEdge and **MacEdge II** each contain 8 reading or math drill ♦♦♦ programs for basic skills. Programs follow one of three formats, a bit contrived. Contrivances are design flaws — they require learning format as well as skill. Exception is *Alphabet Train*, a clever game with great graphics and sound, poor font definition. $49.95 each. Think Educational Software, 16 Market St., Potsdam, NY 13676. CP

MacStronomy is a good package for novice sky watchers. Has ♦♦♦ expandable database of sky objects that can be customized by the user. New version is very fast. $75. Etlon Software, PO Box 649, Lafayette, Co 80026. CP (Apr 86)

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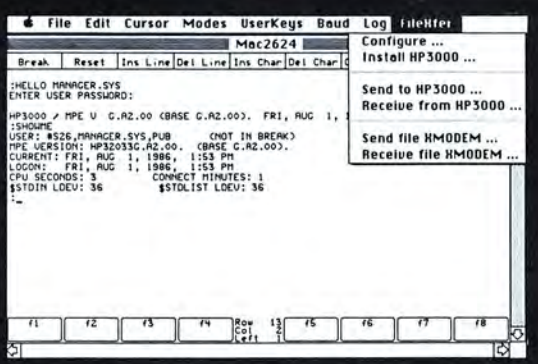
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MINIFINDERS



MacType offers structured typing instruction. Can teach both ¢¢¢¢ standard and Dvorak keyboards. Features include certificates for reaching certain levels. Can be used in a multistudent environment. $49.95. Palantir Software, 12777 Jones Rd., Houston, TX 77070. CP

MasterType is proof that learning to type can be fun. In this ¢¢¢ arcade-style action game words descend from four corners towards the center ship; the user must type them correctly. Features 18 skill levels, tracks errors, recommends lessons and provides comparison scores. $49.95. Scarborough Systems, 55 South Broadway, Tarrytown, NY 10591. CP

NotePro is an educational package that teaches users to organize ¢¢¢¢ and make best use of their notes. Consists of five well designed parts, which can be used individually or as a whole. $59.95. Learning Skills, PO Box 8038, Reno, NV 89507. NCP (Jul 86)

PowerMath is an equation solver. Handles problems ranging from ¢¢¢¢ the simplest to the extremely complicated. Step-by-step solutions make this a powerful teaching tool. Results can be displayed numerically or graphically. Slow, but potent program. $99.95. Industrial Computations, 40 Washington St., Wellesley, MA 02181. NCP

Score Improvement System for the SAT is a no-nonsense drill ¢¢¢¢ and practice session covering practice tests, vocabulary, reading comprehension, math and quantitative comparisons. On-line tutoring for wrong answers. $99.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP (May 86)

Spanish Grammar III is a teachers' tool consisting of ten modules ¢¢¢ for students who need tutoring in the Spanish language. Previous knowledge of the language is necessary. Uses multiple choice and fill-in formats. Keeps a Teacher's Management Report for up to 40 names. $34.95. Queue, 5 Chapel Hill Dr., Fairfield, CT 06432. CP (Apr 86)

Speed Reader II builds skills sequentially to develop faster, more ¢¢¢ efficient reading and improve retention. Scores kept, and can be graphed. High school level selections included, other levels available on data disks. $69.95. Davidson & Associates, 3135 Kashiwa St., Torrance, CA 90505. CP? (Apr 86)

Tellstar I & II are Mac astronomy programs. Have extensive ¢¢¢¢¢ database, quick sky plotting and can locate specific celestial objects. Level II has southern hemisphere star table, Messier objects. $49.95 (level I), $79.95 (level II). Spectrum HoloByte, 1050 Walnut, Boulder, CO 80302. NCP (Apr 86)

Turbo Turtle is a turtle graphics program primarily designed as a ¢¢¢¢ learning tool for children. Uses Logo commands for graphics, but is not a full Logo implementation. Simple to use, good introduction to Logo for young children. $59.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

ENTERTAINMENT

A Mind Forever Voyaging is a departure in text adventure games. ¢¢¢¢ It has a more extensive vocabulary and a more involved story than most of the genre. The story here is gripping, but there are only puzzles to solve. Still, this is a trip in the imagination well worth taking. Requires 512K+. $44.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP (Apr 86)

Airborne is a classic arcade-style game with "real" sound effects. ¢¢¢ The player defends against an assault from flying enemies. Game noises digitized from actual recordings add to the game. $34.95. Silicon Beach, 11212 Dalby Pl., San Diego, CA 92126. CP

Alter Ego simulates the entire lifetime of a fictional character. The ¢¢¢ player's reaction to each multiple-choice event shapes the

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MINIFINDERS



character's future relationships, job, health, etc. Spectacularly impressive the first time you play; after that there are too many similarities to previous characters. Female edition should be available soon. $59.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (June 86)

Amazon is an illustrated adventure authored by Michael Crichton. ½½½ Unravel the fate of a doomed expedition with the help of Paco the talking parrot. Three difficulty levels, good sentence parser. $49.95. Telarium, 1 Kendall Sq., Cambridge, MA 02139. CP (Feb 86)

The Ancient Art of War gives users a chance to refight some ½½½½½ famous campaigns on both strategic and tactical levels. Campaigns can also be designed from scratch. Very playable, addicting game. Requires 512K+ Mac. $49.95. Broderbund, 17 Paul Dr., San Diego, CA 94903. CP (Apr 86)

Archon pits the forces of Light against Dark in a quest to gain ½½½½½ control of five Power Points on a checkerboard grid. Light is stronger on white squares, Dark on black squares, and the shifting cycles of squares' colors keeps the balance of power ever-changing. Game pieces fight for possession of a square. One or two players. $44.95. Electronics Arts, 2755 Campus Dr., San Mateo, CA 94403. CP (Oct 86)

Balance of Power is the world's first computer peacegame. This ½½½½½ simulation allows players to become either the President of the United States or General Secretary of the Soviet Union. Extraordinary artificial intelligence routines and general play make this a classic. $54.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60022. CP (Prem)

Baron is the world of real estate, in a financial simulation. Buy and ½½½½½ option properties in five key areas; invest in industrial, residential, or land property; or put cash aside in high-interest accounts. $59.95. Blue Chip, 6740 Eton Ave., Canoga Park, CA 91303. CP

Borrowed Time casts players as detectives who have to solve their ½½½½ own murder — before it happens. This game requires players to think and act like a detective to solve the game. Good sentence parser, sketchy Mac interface. $44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (May 86)

Brataccas is the Mac's first true action adventure in which players ½½½ use the mouse or keyboard to control Kyne, the heroic fugitive scientist, as he moves around a planet outpost in search of clues and information. Terrible, confusing instruction manual mars an otherwise good game. Excellent graphics, unusual sentence parser. $44.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP

Bridge 4.0 provides three other players and the cards for a game ½½ of rubber bridge. It's an average (Goren) bidder and a less than good card player. Good if it's the only game in town. Plays slowly since it's written in BASIC. $29.95. Artworx Software, 150 N. Main St. Fairport, NY 14450. CP (Sep 86)

Brimstone is a full-text adventure that follows the exploits of Sir ½½½½ Gawain as he journeys down to the pits of Hell and back again. A good example of an interactive novel, although the third-person narrative can be disconcerting. $39.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP (Jul 86)

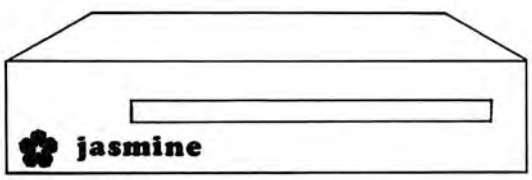
Championship Boxing allows statistical replay involving famous ½½½½ boxers. Players can modify existing boxers and can create their own fighters. Good sound and graphics. $39.95. Sierra, PO Box 485, Coarsegold, CA 93614. CP (Mar 86)

Cyborg is a text adventure game with an interesting twist. Robot ½½½ brain is implanted in concert with yours. It scans, evaluates, and reports, then carries out actions. Word and sentence understanding is very good. Absorbing game for adventurers. $39.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP

Deadline is a text adventure in which the player is a detective

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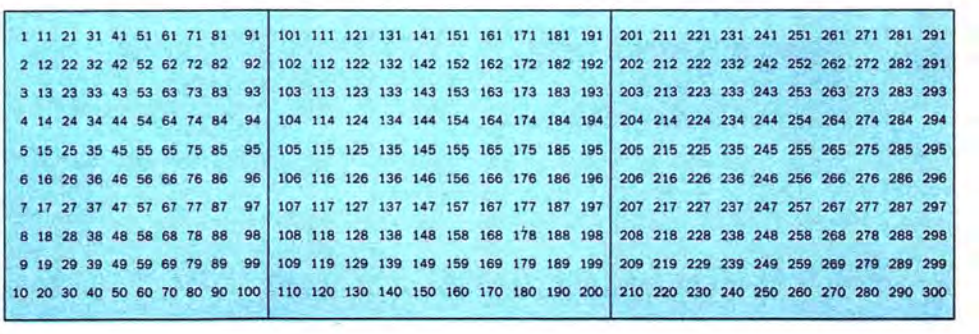
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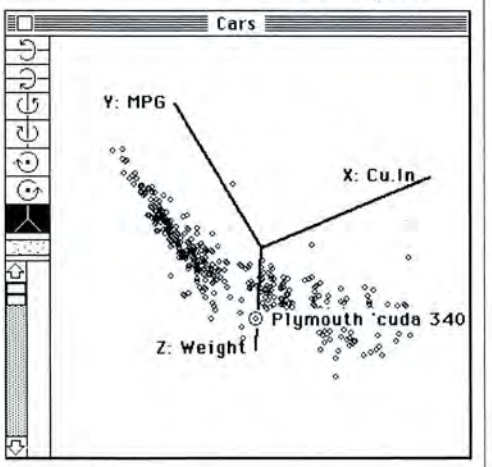
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¢¢¢ called in to investigate what seems like a simple drug overdose. The family lawyer thinks it was really a murder. You have 12 game hours to find the killer! $49.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

Deja Vu A: Nightmare Comes True is a graphic adventure that **¢¢¢¢¢** breaks new ground. Innovative use of the Mac interface in truly playable and exciting game. A great introduction to graphic adventure games. $49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (Jan 86)

Dinner at Eight is a useful recipe filing system that includes a **¢¢¢¢** collection of recipes from a nationwide sampling of restaurants. Users enter number of diners and program scales recipes accordingly. $59.95. Rubicon, 6300 La Calma Dr., Austin, TX 78752. CP (Jan 86)

Enchanted Scepters is a surround sound graphic adventure **¢¢¢¢** game. It has a limited vocabulary and virtually no story. Offers extensive and varied scenes and utilizes the Mac interface to the fullest. A worthwhile adventure experience. $39.95. Silicon Beach Software, PO Box 261430, San Diego, CA 92126. CP (May 86)

Flight Simulator puts you at the controls of a small plane (prop or **¢¢¢¢** jet) and lets you roam North America. As difficult as real flying. Mac version has features not found on earlier versions, including spotter aircraft. Not all features available on 128K. $49.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98052. CP

Fokker Triplane is about as near to flying as you can get seated in **¢¢¢¢** front of a computer. Very realistic simulation and excellent graphics. Well designed and implemented. $59.95. PBI Software, 1155B-H Chess Dr., Foster City, CA 94404. CP (Feb 86)

Gateway comes with 3 full-color prints. You inherit a boring old **¢¢¢** building from a supposedly rich uncle, eventually learning that the building is a "gateway" to a lost civilization. $49.95. Pryority, 635 Sanborn Rd., Salinas, CA 93901. CP (Prem)

Gato puts players in command of an American submarine in World **¢¢¢¢¢** War II. This superb simulation game uses all of the Mac's graphic capabilities to really make you feel that "you are there." $39.95. Spectrum Holobyte, 1050 Walnut St., Boulder, CO 80302. CP (Nov 85)

Grid Wars is a three-dimensional arcade-style game. Good play-**¢¢¢** ability, for those that enjoy shoot-em-ups. Bizarre graphics. $39.95. Ann Arbor Softworks, Inc., 308½ S. State Street, Ann Arbor, MI 48104. CP (Apr 86)

Gypsy is a computerized, customizable Ouija board. More than just **¢¢¢¢** a software package, users get a pasteboard playing surface and a Mouse Mover with 99 ball bearings. $39.95. Magnum, 21115 Devonshire St., Chatsworth, CA 91311. CP (Prem)

Legacy is a two-part text/graphic adventure. A magical orb in Drab **¢¢¢¢** Castle must be found through the use of spells and careful adventuring. Well-constructed game. $45. Challenger Software, 18350 Kedzie Ave., Homewood, IL 60430. CP

Lode Runner is a 150-screen action-strategy challenge that **¢¢¢¢** requires a joystick for truly effective play. Move around a grid of ladders and platforms collecting treasure; dig a hole to trap pursuers. Build your own challenges. $39.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP

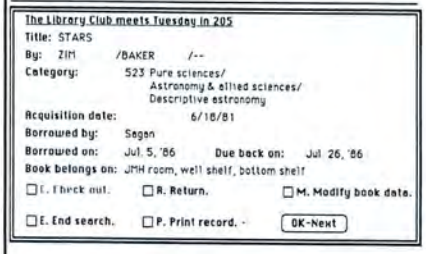
The Lüscher Profile is a psychological profile generator that **¢¢¢** bases its conclusions on users' responses to seven different color tests (color charts are enclosed in the package). Select your favorite colors, shades and shapes and the program displays or prints a two- or three-page personality profile. $39.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (Aug 86)

MacChallenger lets players land a space shuttle. The graphics of

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MINIFINDERS



$$$ this flight simulator are crude and it's a hard machine to fly, but it's also a lot of fun. Version 2.0 lets you record your landing attempt (that's what most of them are!) and then review it from any of ten camera angles, a truly unique touch! $49.95. Aegis Development, 2210 Wilshire Blvd., Santa Monica, CA 90403. CP (Feb 86)

MacGolf is a dynamic simulation of real golf. Players have a **$$$$** choice of courses and difficulty levels. Superb playability makes this a must for all golfers and gamers. Requires 512K+. $59.95. Practical Computer Applications, 1305 Jefferson Highway, Champlin, MN 55316. CP (May 86)

MacInooga ChooChoo is a set of electronic toy trains. Run on the **$$$$** layouts provided, or create your own, as complex as you wish. Create scenery using built-in tools or import fancier *MacPaint* scenery. $39. Fortnum, 31 W. Sierra Madre Blvd., Sierra Madre, CA 91024. NCP (Apr 86)

MacVegas contains seven complete casino-style games: bacca- **$$$** rat, blackjack, craps, keno, poker, roulette and slots. All are fairly standard, but generally well designed. House rules can be selected from a menu. The games are all fun to play, but not particularly absorbing. $59. Videx, 1105 Northeast Circle Blvd., Corvallis, OR 97330. CP

MacWars is a Mac version of the popular "Star Wars" arcade **$$** game. Three-dimensional graphics are sluggish at times, digitized sound is somewhat less than terrific, and playability is limited. Doesn't work on Mac Plus. Spend your quarters on the arcade version. $49.95. Miles Computing, 21018 Osborne St., Canoga Park, CA 91304. CP

Make Millions is a fascinating business simulation in which the **$$$$$** player competes against the computer to take control of five companies, then run them profitably. Different strategic options and human-seeming associates make simulation more complete. Appeals to the closet capitalist in all of us. $49.95. Scarborough Systems, 55 South Broadway, Tarrytown, NY 10591. CP

Mind Over Mac features five games. Entertainment for the whole **$$$$** family. Good graphics paired with synthesized sound and on-screen help. $49.95. Think Educational Software, 16 Market St., Potsdam, NY 13676. CP (Feb 86)

Mind Prober is a demonstration of a very simple expert-style **$$** system. How well do you know your friends? Answer certain statements as either true or false, and the computer prints a 3- to 5-page psychological profile of subject in business, stress, sex and other situations. $50. Human Edge Software, 2445 Faber Pl., Palo Alto, CA 94303. CP

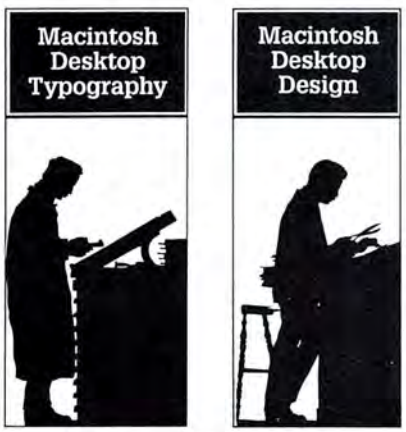
The Mist is an all-text "interactive novel" based on a short story by **$$$** Stephen King. Vivid graphic and sometimes gory descriptions compensate for the game's muddled sentence parser. The story is involving, while the game is overly lock-step. $39.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (May 86)

NewGammon is animated backgammon that will challenge even **$$$$** good players. Features include variable skill levels and strategies and options to play the Mac or watch the Mac play itself. Many positions are included so that you can learn how to play them without having to set up a whole game. An arcade-like high speed play mode is also included. $39.95. Newsoft, PO Box 4035, Newport Beach, CA 92661. CP

Orbiter puts a real space shuttle on the Mac screen. A multitude of **$$$$$** controls, intelligent on-board computer with speech capabilities, real-time graphics and 16 distinct missions help this program succeed as both a game and a simulation. Recommended. $49.95. Spectrum HoloByte, Inc., 1050 Walnut Street, Suite 325, Boulder, CO 80302. NCP (Jul 86)

Perplexx is a board word game based on *Scrabble*. Players can **$$$$** vary the rules and board to suit their tastes and skills. Up to

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MINIFINDERS



four can play and the game can either be an active player or a scorer and arbiter. Has a 90,000+ word dictionary. $39.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

Pinball Construction Set lets users create their own pinball ★★★★ games, as elaborate or as easy as desired. Uses *MacPaint* for backgrounds and has lifelike sounds (on 512K+ Macs). No documentation to speak of. $40. Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. CP (Jan 86)

Psion Chess is as good a micro chess player as you'll find. This ★★★★★ 1984 World Micro Champion makes superb use of graphics and the Mac interface. Switch between 6 languages for a touch of spice. $59.95. Psion, 40 Lindeman Dr., Trumbull, CT 06611. CP (Mar 86)

Real Poker is five-card draw against five other players with Old ★★★★★ West names, distinct personalities and playing styles, in a saloon setting. Dealing and play are very fast. Game evaluates your hand, suggests cards to keep/discard. Dynamic, exciting, addictive game. $39.95. Henderson Associates, 980 Henderson Ave., Sunnyvale, CA 94086. CP

Rogue is a strategy dungeon adventure in which each quest is ★★★★ completely different. Randomly generated rooms, monsters and treasures keep even veterans on their toes. $39. Epyx, 1043 Kiel Ct., Sunnyvale, CA 94089. CP (Feb 86)

Sargon III is a capable chess program with 9 levels of play, ★★★★ problem-solving modes, take back, change color, hint, manual play, etc. Easy Play option blocks *Sargon* from stealing search time during player's move, effectively doubling number of levels. Pieces are moved graphically. Disk stores 107 classic games for review and replay. $49.95. Hayden Software, 600 Suffolk St., Lowell, MA 01854. CP (Mar 86)

Shanghai challenges players to clear a board of all 144 tiles, by ★★★★★ matching pairs of mah-jongg tiles and removing them. A tile must be able to slid to the left or right in order to be removed. Terrific strategic options plus the ability to randomly generate new game boards keep this one fresh. $44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (Oct 86)

Skyfox is a sophisticated 3D shoot-em-up. You're fighting tanks, ★★★ planes, and enemy cities floating in the sky. Fast graphics, good sound, slick, on-board attack computer and many levels of difficulty will keep fans of this genre happy for hours $39.95. Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. CP

Strategic Conquest is large scale, strategic conflict on the Mac. ★★★★ This very involved war game will be enjoyed by those who like this genre. $49.95. PBI Software, 1155B-H Chess Dr., Foster City, CA 94404. CP (Dec 85)

Suspended is Infocom's most unique text game. Using a small ★★★★ plastic board and six markers, the player keeps track of six uniquely designed robots which check on damage to a complex's machinery and report back what they perceive as the problem. $49.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

Ultima II players take the part of a character who travels through ★★★★ land, sea, air, space and even time itself in a quest to find and defeat the evil sorceress Minax. Good Mac interface; excellent game; confusing graphics. $59.95. Sierra, PO Box 485, Coarsegold, CA 93614. CP

Ultima III allows up to four characters to cooperate to explore the ★★★★★ vast wilderness of Sosaria; dungeons, oceans, and the Moon Gates to help solve the adventure. $59.95. Origin Systems, 340 Harvey Rd., Manchester, NH 03103. CP

Winter Games lets up to eight players compete against each other ★★★★ in Olympic events including figure skating, bobsledding, biathlon and ski-jumping. Excellent animation, good graphics, good theme music. $39. Epyx, 1034 Kiel Ct., Sunnyvale, CA 94089. CP (Mar 86)

Wizardry is an outstanding dungeon exploration adventure pitting ★★★★★ a party of up to six characters against the guardian monsters of the evil wizard Werdna. Capture his amulet to earn your reward. Even after solving the game, you'll want to go back into the dungeon. $59.95. Sir-Tech, 6 Main St., Ogdensburg, NY 13669. CP

Word Challenge is a *Boggle* lookalike. Features multiple (26) skill ★★★★ levels and an extensive dictionary. Even "pro" *Boggle* players should find a level that will challenge them. $39.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

WordPlay is a word game with over 50 crossword puzzles for ★★★★ different levels of expertise. User friendly, it offers on-screen Help menus. A Work mode allows development of new puzzles for the creative. $49.95. Palantir, 12777 Jones Rd., Houston, TX 77070. NCP (Mar 86)

Xyphus is a role-playing game pitting four characters (fighters or ★★★★ wizards) against multiple scenarios that grow increasingly harder. Excellent Mac interface and icon control. $39.95. Penguin, PO Box 311, Geneva, IL 60134. CP

Zork II is where the adventure continues in the underground ★★★★★ empire. A wandering wizard keeps things interesting, though there's a way to beat him if you persevere. $44.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

Zork III is the final chapter in the trilogy. Players come up against ★★★ the ultimate enemy — the Dungeonmaster himself. More closed-ended than previous *Zorks*. $44.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

MUSIC

ConcertWare+ is an enhanced version of *ConcertWare*. Has ★★★★ different instruments and the ability to use any four of a set of eight at any point in a piece. Can read and use *ConcertWare* and *MusicWorks* files. $69.95. Great Wave, 104 Gilbert Ave., Menlo Park, CA 94025. NCP (Nov 85)

Deluxe Music Construction Set is a good general purpose music ★★★★ program. An active piano keyboard and instant audio feedback make this program perfect for educational applications, and the advanced notational capabilities will satisfy most advanced musicians. $50. Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. CP (Mar 86)

Performer is a strong contender for the high-end of the MIDI ★★★★ sequencer market. Only those experienced with MIDI should get this, and if you are, this is one of the best sequencers out for the Mac. Files can be transported to *Professional Composer* for editing. Serious omission: No direct track or segment looping. $295. Mark of the Unicorn, 222 Third St., Cambridge, MA 02142. CP

Professional Composer is aimed at music professionals. Pro- ★★★ duces performance-quality sheet music; has only limited playback facilities. $495. Mark of the Unicorn, 222 Third St., Cambridge, MA 02142. CP (Prem)

HARDWARE & ACCESSORIES

Ergotron is a Mac (and external drive) holder that allows a full ★★★★ range of swiveling and tilting. Very strong, this well made unit is also very easy to use. $99.95. Ergotron, PO Box 17013, Minneapolis, MN 55417.

Hard Disk 20 is Apple's entry in the exploding hard disk sweep- ★★★★ stakes. This quiet, small unit uses Apple's new Hierarchical File System (HFS). The lack of utility software (spooler, backup, security) is its only drawback. $1499. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. (Feb 86)

HyperDrive HD20 is an internal 20-megabyte hard disk. It only ★★★★ adds about 5 pounds to the Macs weight. Good, full featured unit with all common utilities: spooler, security program and backup utility. It could use memory a bit more efficiently, and it remains to see how well it will work with Apple's new HFS. $2195 installed in a 512K+ Mac. General Computer Company, 215 First St., Cambridge, MA 02142.

Macbottom 20 is a small, external unit that sits under the Mac ★★★★ and connects to the external drive port (not SCSI). Good, reliable, but noisy unit. Requires 512K+. $1595. PCPC, 6204 Benjamin Rd., Tampa, FL 33614.

MacCharlie is one of the most unusual Mac products imaginable.

MINIFINDERS

Its components slip around the Mac and the keyboard and convert the Mac into an IBM PC clone. Amazingly it works well. The enlarged keyboard has a few bugs but is a joy to use. $1,195 with 256K RAM and one floppy drive. $1,895 with 640K RAM and two floppy drives. Dayna Communications, 50 S. Main St., Salt Lake City, UT 84144. (Dec 85)

Macintizer is a graphics tablet and absolute positioning device that replaces the mouse. Various scales are possible. $599. GTCO Corp., 7125 Riverwood Dr., Columbia, MD 21046. (Jan 86)

MacNifty Sound Digitizer turns ordinary analog sound input into digital waveforms which can then be manipulated using the *Sound Cap* software it comes with. Capable of truly stunning effects. Requires 512K+. $129.95. Kette Group, 6860 Shingle Creek Pkwy., Minneapolis, MN 55445.

MacNifty Stereo Music System converts Mac sounds to simulated stereo by splitting highs and lows between two powerful speakers. User controls bass, treble, balance, low and high impedance output, and most importantly, volume. Hear your music compositions the way they were meant to be played. $79.95. Kette Group, 6860 Shingle Creek Pkwy., Minneapolis, MN 55445.

MacNifty Switch allows any port on your Mac to connect to two peripherals. Turn the knob to switch between the two devices. $34.95. Kette Group, 6860 Shingle Creek Pkwy., Minneapolis, MN 55445.

MacTablet is a stylus-driven graphics tablet. Users can easily sketch or trace art using this absolute-positioning device. Has a working area the size of the Mac screen. Allows concurrent use of the mouse. $495. Summagraphics Corp., 777 State St. Extension, Fairfield, CT 06430. (Jan 86)

MacVision is a digitizer that uses an ordinary video camera for input. Capable of extremely fine results and special effects. Easy to use and well documented. $399.95. Koala, 3100 Patrick Henry Dr., Santa Clara, CA 95052.

Magic is both the most intimidating and easiest to use digitizer available. Use a regular video camera for input. Once the crowded screen is mastered, any effect is possible. $399, $549 with camera. New Image Technology, 10300 Greenbelt Rd., Seabrook, MD 20706.

MouseTop is unquestionably the cutest mouse cover on the market. Gray, plush fur, round felt ears and button nose and eyes make your mouse look authentic. $5.49; $5.95 for MouseTop wearing wire-frame glasses. H&H Enterprises, PO Box 2672, Corona, CA 91718.

Moustrak is a fabric covered foam mousing pad. It will increase the efficiency of your mouse while helping to keep it clean. Pad comes in a variety of colors. Particularly useful in the typical office desk top environment. $10. Moustrak, 1 Weatherly, Mill Valley, CA 94941.

NoLabelSystem is a plastic permanent labeling system in which users slide new tabs into a transparent plastic case on the disk. The tabs stick out of the case slightly, making them easier to read while in the drive. NLS-3.5 set contains 100 plastic pockets, 100 white tabbed insert cards, 100 color tabbed cards and instructions. $19.45 plus $3 shipping. Weber & Sons, NLS Dept., 3468 Hwy 9, Freehold, NJ 07728.

Numeric Turbo combines a track ball with an enhanced numeric keypad. The keypad includes working cursor keys and other direct function keys that bypass the Mac's Command and Shift keys. The track ball takes some getting used to and some never learn to like it. Those who do rarely ever use a mouse again. $149. Assimilation, 485 Alberto Way, Los Gatos, CA 95030.

ThunderScan replaces the ribbon cartridge in an ImageWriter, which is required to use it. Laser scans art that can be run through the ImageWriter, producing high-quality digitized images. The images can be manipulated as they are created or afterward. Mac Plus compatible using optional adapter. Output has been optimized for LaserWriter. $229. Thunderware, 21 Orinda Way, Orinda, CA 94563. NCP

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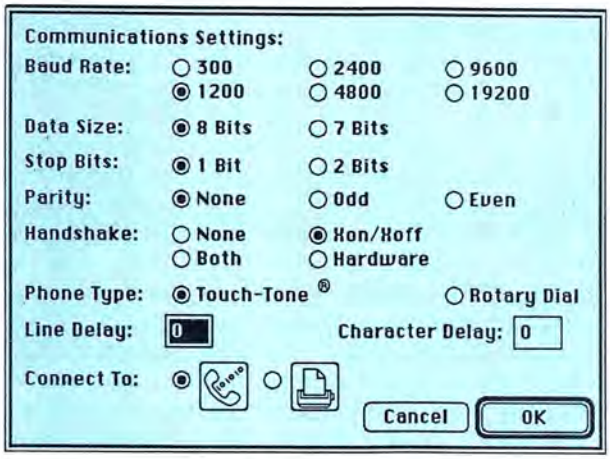
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IT'S IN THE WORKS



The communications module offers a full range of options. You can communicate with virtually all other computers.

(continued from page 48)

straightforward task to click on the "Dial" button next to the service you want to reach.

Once you have dialed the other computer you can send and receive (called "capturing") text files and you can even send files via XMODEM, which is a special error-checking method of sending files. The files that you can send include just about anything you can see as an icon on a desktop — everything from *MS Works*' own saved documents to applications, as well as documents from almost any other program.

Even better, *MS Works* supports the now industrywide MacBinary protocol. The MacBinary protocol is a special way of formatting the XMODEMed material which makes transmitting and receiving both faster and surer.

Unfortunately, *MS Works* does not allow for either macros or terminal emulation. This means that unlike programs such as *Smartcom II*, *Red Ryder* 9.4, *Microphone*, *inTouch* and many others, the user cannot design automatic sign-on routines. Nor can the user design quick ways to send commands and save keystrokes as in the above programs. And, if the called computer is, for example, a VT-100 terminal, then the user will not be able to use some special formatting advantages offered by other programs that do have this emulation capability.

The telecommunications subprogram in *MS Works* is good enough that it will take the user through the first stages of being involved with modems and the exchange of data via the phone lines. Many users may find that it is all that they will need.

But unlike the other subprograms in *MS Works*, the lack of the above features makes this part of *MS Works* compare as being less than existing standalone products.

ALL TOGETHER NOW!

One of the main questions that can be asked of any integrated package is: How easy is it to get from one program to another and transfer information? On the Mac you can go even further and ask: Why should I use this program instead of Apple's *Switcher* to integrate my own applications? Let's take these two points one at a time.

As is almost always the case in Mac, *MS Works*' subprograms' Edit menus allows the user to cut and copy information to the Clipboard. In this manner it is very easy to prepare information for transfer.

If you want to, for example, you can select text that was received via telecommunications. You can then copy it to the Clipboard and paste it into the word processor to include in a report. Or, you can copy various computed fields from your data base, paste them into your spreadsheet and really go to town with "what-if" scenarios.

Every subprogram also has available a Window menu. The Window menu allows you to quickly shrink and expand the on-screen window so as to help keep track of your "stack" of windows. But the main benefit of the Window menu is that it tracks and lists (at the bottom of the menu) all of the various documents you are working on. You can then choose a document with the mouse and instantly be within that document's window.

Help files are also available on-line for speedy recovery from errors or for that reminder of the command that's just on the tip of your mouse. The help file is reachable from every subprogram.

So, within its own domain, *MS Works* is a speedy and very easy to use method of integrating. The user really does feel that the various subprograms are all one big package rather than loosely welded parts.

MS Works' price point is another of its strong points. In order to come up with a comparable batch of programs running under *Switcher* it would be necessary to dip deep into a wallet. For many people the most economical way to integration of all of these programs might well prove to be *MS Works*.

This may indeed prove to be the package that changes the way you use your own Mac! It's well worth auditioning it to see if it will really work for you.

Neil L. Shapiro is MacUser's *Editor at Large.*

MICROSOFT WORKS

Overall Rating	■■■■■
Follows Mac Interface	■■■■■
Printed Documentation	■■■■■
On-Screen Help	■■■■■
Performance	■■■■□
Support	■■■■■
Consumer Value	■■■■■

Comments: A fully integrated package featuring word processor, spreadsheet with charting, data base, and telecommunications subprograms. **Best Feature:** Fully utilizes the Macintosh interface to result in a complex program that is still intuitive to learn and use. **Worst Features:** Drawing ability in word processor is revolutionary in concept but flawed in execution. Telecommunications does not feature macros or terminal emulation. **List Price:** $295. Published by Microsoft Corporation, 16011 NE 36th Way, Box 97017, Redmond, WA 98073-9717. (206) 882-8080. Comes on one 800K disk, requires at least 512K RAM. Version reviewed 1.0 (vv1) — a prerelease version. Copy protected.

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THOROUGHLY MODERN MAUG

(continued from page 91)

but if you've done an SS (Set Subtopic), you'll come in on that channel. If you're on one channel and everyone else is on another, /TUN nn (type the actual number, not nn) will get you to channel nn. Many people are often found on Channel 8, as that is the official VMCO channel. (VMCO is Bob Perez's *Visual/vocal MAUG COnferencing* system that uses MacInTalk to speak what people type and icons to represent their facial expressions. It must be seen to be believed.)

WHEW! IS THAT ALL?

That wraps up our tour of the MAUG Forums. That is *not* all, not by a long shot, but it is enough to get you on-line leaving messages, reading and downloading files, and visiting with other folks in CO. As you visit the various MAUG Forums, read the bulletins. Type SN at the *Function* prompt to find out what the various Subtobic Names are. From the *Function* prompt, typing Xn will get you a description of what Subtopic n is all about. (Typing DES at the *DL* prompt will get you the same information for the particular DL you're in.) Read some messages, and don't be afraid to ask for help. The sysops are ready and willing to help you with problems. Many people join MAUG each day, so you won't be the only one having problems, but you may be the only one bold enough to ask for help. The other new members will read the replies to your requests for help and silently thank you for asking the questions they were too shy to ask.

And don't be surprised if Andy Hertzfeld answers your question about ThunderScan or *Switcher*. Or if Jean-Louis Gasse answers your question about Apple's marketing plans. Or Dan Cochran about *MPW*. Or Scott Knaster about ROM versions. Or Scott Watson about *Red Ryder*. Or Evan Gross about *BatteryPak*. Or Dave Winer about *MORE*. Or David Dunham about *Acta*. Or Mike Boich about *MacTerminal*. Or Dennis Brothers about *Microphone*. Or Steve Bobker about *MacUser*. In fact, don't be surprised no matter who you see on MAUG. Even John Sculley is a member.

Robert R. Wiggins is a New York – based computer consultant and writer.

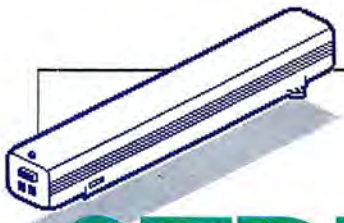
YOUR OWN CUSTOM COMPUSERVE TERMINAL

Want to optimize your Mac for communicating with CompuServe? Then customize your terminal parameters. CompuServe supports many different kinds of terminals and allows you to customize your settings to match your terminal (or in this case, terminal program).

One type of terminal that is very popular, and that many Mac terminal programs can emulate, is the VT100. CompuServe is quite compatible with VT100, as it is organized into "videotex pages" of information, and will clear your screen between pages of information. Many people like this paged approach. Try it out:

First, set your terminal program to VT100 (probably under a menu called Settings or Terminal). Then, on CompuServe, type GO DEFALT at any system prompt and you'll get a choice of things to do. Choose "Setting Your Terminal Type" and on the next screen choose ANSI-compatible (VT100). Then hit another RETURN to get the detailed parameters. Select and change (as needed) your terminal width to 80, your screensize to 24, FormFeeds to REAL, Tabs to REAL, UPPER-/LOWER on, CAPS LOCK OFF, LINEFEEDS SENT, BLANK LINES SENT. When you're all done, it asks if you want these to be permanent or for the current session only. If you're just trying it out, select the choice for session only. See how you like it.

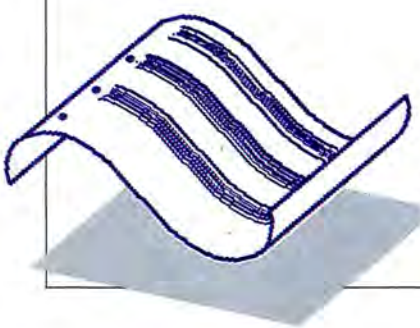
If you have a terminal program that lets you scroll backwards (like *MacTerminal, MicroPhone, Red Ryder,* or *Smartcom,* among others), then VT100 may not be for you, as it clears the screen and the information does not scroll off the top for later review. Also, you may not want to use the paged approach, as you may want it to give you all the information and let you log off to review it (it's cheaper that way). In this case, follow the same steps as for VT100 except select OTHER as your terminal type, and out of the detailed parameters set your screensize to 255 lines. All the other detailed parameters should be set the same as they were for VT100.

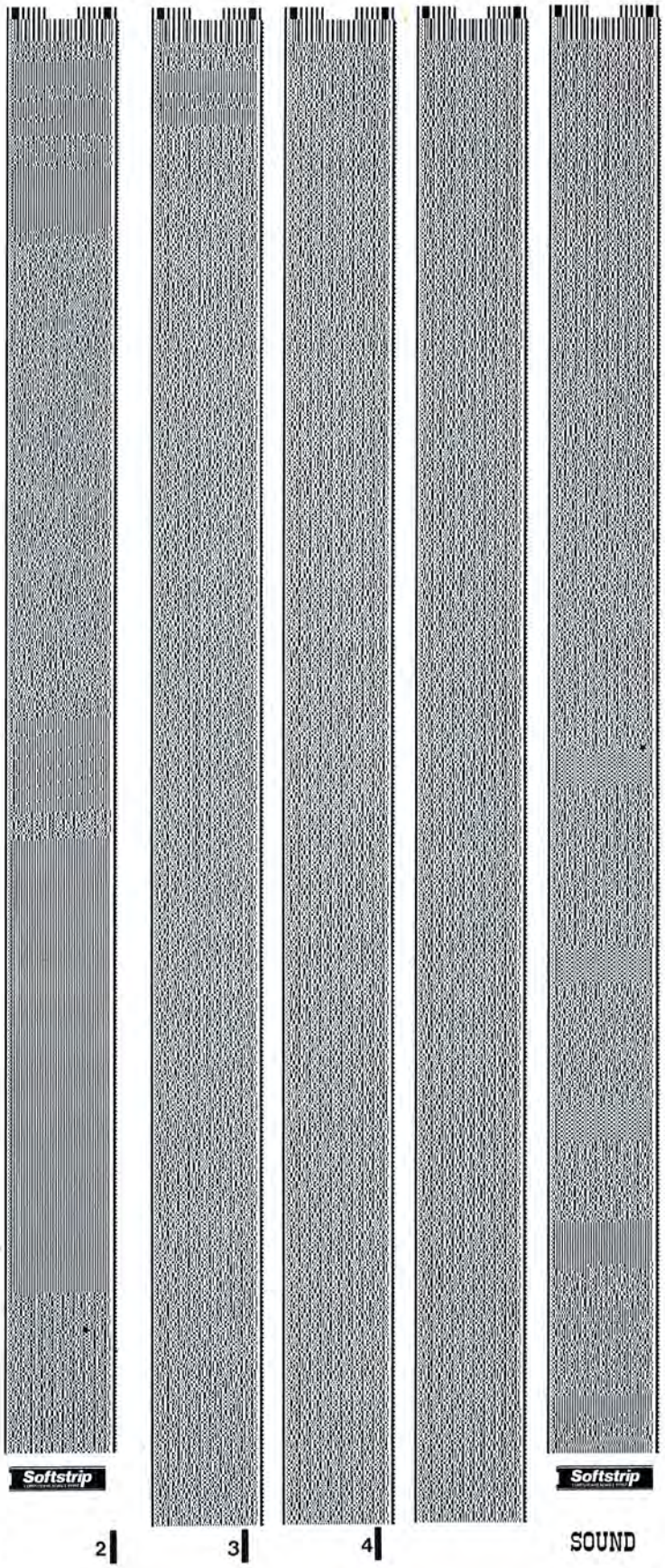


STRIP SHOW

This month we have a mixed bag for you. The major offering consists of Steve Martin's TML Pascal listings from his "The Sound of Pascal" article. Sure beats typing the code in!

The other strip is a program called *Mad Menus*. It's by Howard Katz of Burnaby (that's near Vancouver), British Columbia, and is here with his permission. It does some, unh, unusual things with the menus and screen. It's also absolutely safe and will not harm any Mac or system. — *SB*







by John C. Dvorak

HAIR-RAISING CONSPIRACY

The following story I'm about to tell you is true — as incredible as it may sound.

I was asked to meet the members of the so-called "Macreal" world domination conspiracy at midnight near the Berkeley Marina. "Just be there, we'll find you," said a voice on the phone.

This wasn't that zany Iowa Mac Underground crowd that publishes all the Mac stuff. This was something else — a Moonie/Synanon kind of conspiracy as best I could tell. "We're are going to change the direction of Western Civilization," I was told by a man who called himself Gonzago. He claimed to be the ringleader and "next world ruler."

I didn't take this seriously, but decided to head toward the piers anyway. Heck, there was nothing else happening on that Tuesday night since CBS had cruelly preempted *The Equalizer* that week. To meet these crackpots was a mistake.

A few minutes after I arrived, a group of thugs — I suspected a few of them to be gypsies — approached the car. "We are the agents from Macreal," said a bearded fat man who wore a ragged orange jump suit and a cheap yellowing Panama hat.

Before I knew what hit me, one of the jokers covered my mouth with a chloroform-soaked rag. I woke up, hours later, in some sort of underground city. It reminded me of a Carlsbad Cavern kind of place. But I suspected I was somewhere within the miles of secret Tong tunnels under San Francisco's Chinatown. Hundreds of men and women played troglodyte in among the rocks. An eerie glow emitted from countless cubicles throughout the cave. It was from hundreds of Macintosh computers. As I turned to look around I was suddenly greeted by the man — Gonzago!

"My friend," he said as he outstretched a hand in a gesture of goodwill. "We have for you a story to tell your readers. They are awaiting the word of my appearance. Soon I can, once and for all, rule the world for the good of all."

I cautiously shook his hand as he continued. "You see," he said, "it is important the Macintosh become the only computer in the world. It is our tool. The screen is rigged at a certain frequency to slowly hypnotize users until they become 'tuned,' as it were. Tuned to the collective unconscious that we are all part of. This is why it was necessary for brother Steve and the Mac comrades to use the nonstandard video frequency on the tube. It's funny how nobody noticed, huh?"

"You mean there is something hypnotic about the Mac frequency?"

"Yes, it was discovered by brother Steve. It creates a peculiar love and fanaticism that cannot otherwise be duplicated. With very little prodding a Mac user can be made to do almost anything. We can determine when this effect has taken place when the the devotees express a willingness to listen to James Taylor and Carly Simon albums."

"Why did you bring me here?" I asked as I looked for an escape route.

"You must be programmed to the frequency. You will be seated in the Mac overdose room where you will be pulsed for 24 hours until you become one of us. You will then go amongst the cynics and sing praises of the Mac, write books about the Mac, grovel in the presence of the sainted ones and help us begin a new world order."

"The sainted ones? Who the hell are they?" Gonzago tittered. "The ones whose names are in the Macintosh case, you fool. Hahahaha!" His face suddenly stiffened as he motioned to a couple of ugly henchmen. "Take him away!"

I was grabbed under the arms and thrown into a sealed room that had at least a hundred Macs and a video projector inside. The door was locked behind me. I couldn't get out. The hellish show began.

All the Macs came to life at once and they all strobed their eerie frequency at me. I could almost hear it. On the projection TV appeared a man wearing a Macintosh shaped hat. He babbled about the new Mac thinking cap. He was followed by an episode of Captain Kangaroo and the dancing Mac. Soon there was a Muppet Mac show and Walt Disney's Mickey Mac.



Hours passed. It was all too much. My head was reeling as I was subjected to a movie called Mac to the Future. Then there was a bizarre baseball game and the announcer kept talking about Mac to Mac home runs. Soon I was watching basketball. Bob MacAdoo, as I recall. Then Shakespeare's MacBeth. The station call letters were KMAC. "Mac-...Mac...Mac..." ran in my ears.

A voice called into the room. "We have food. Big Macs! Or if you prefer we can go to Mac in the Box." The voice laughed idiotically. Instead of the expected hamburger, they tried to confuse me with Macaroni and cheese. "Would you like a Macaroon for desert? Hahahahaha! Give it up Dvorak, you'll soon be one of us. Hahahahaha!"

Suddenly a rock group blared from some overhead speakers. It was Fat Mac and the Heart Attack. It was their greatest hits on the Metro Goldwyn MacMeyer label. Their first song was Mac the Knife. Then Old MacDonald had a farm. I began to black out. I had to fight it, I thought to myself. All the while, the Macintosh's flicker kept throbbing, throbbing, throbbing.

All of a sudden I felt relaxed. No I didn't. Yes I did. It felt good, real good. No, it felt great...that's the ticket — great. Now I know what they meant. These machines are great, yeah, yeah — great. Insanely great. Yeah, now I get it. I get the joke — insanely great...that's the ticket, insanely great. I laughed idiotically. I wanted to tell them that they were right. I headed for the door — a dumb smirk was on my face. Suddenly I slipped on some wet macaroni that earlier had fallen to the floor. I fell backwards and bashed my noggin on the TV projection screen. I shook my head and snapped out of it long enough to realize that I had almost become a Mac zombie.

Before I was again overcome by this madness, I figured my last hope was to fake it. I tried to cover up the fact that I was scared, real scared. I put the fake smile on and bugged open my eyes. "I understand! I yelled through a peep hole in the door. "You're right."

Apparently nobody had lasted this long in the box without succumbing. They believed me and asked me if I wanted to listen to a James Taylor record. "Neil Young would be better," I said on a gamble. "Perfect!" shouted Gonzago.

They freed me, hoping I'd take part in their ploy. Instead, I lived to tell this tale and to warn others. Beware!

BOB ZIMMERMAN

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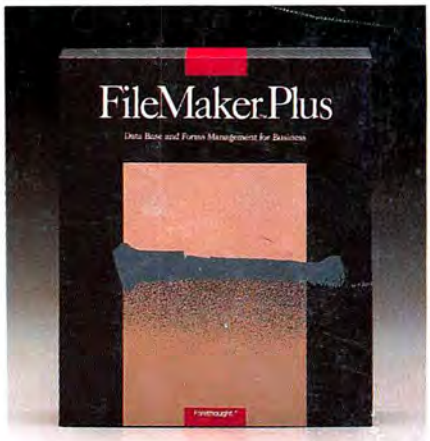
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